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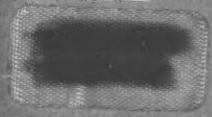

Economic Report of the President

Transmitted to the Congress
January 1989

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Economic Report of the President

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January 1989

TOGETHER WITH

THE ANNUAL REPORT

OF THE

COUNCIL OF ECONOMIC ADVISERS

UNITED STATES GOVERNMENT PRINTING OFFICE

WASHINGTON : 1989

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

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ECONOMIC REPORT
OF THE PRESIDENT

ECONOMIC REPORT OF THE PRESIDENT

To the Speaker of the House of Representatives and the President of the Senate:

It is with great pride in the accomplishments of the American people that I present my eighth, and final, *Economic Report of the President*. When I took office 8 years ago there was widespread doubt concerning the ability and resolve of the United States to maintain its economic and political leadership of the Free World. Political events abroad seemed to demonstrate the impotence of American power, while economic events at home raised concerns about the vitality of our system. Throughout most of the 1970s inflation raged at unacceptably high rates, and unemployment moved upward. Stagflation, a name invented for the era, and malaise were the words used to describe America.

Today, it is as if the world were born anew. Those who doubted the resolve, and resilience, of the American people and economy doubt no more. The tide of history, which some skeptics saw as ebbing inevitably away from Western ideals of freedom of thought, expression, and enterprise, flows in our direction. By strengthening our military posture and reaffirming our commitment to the cause of freedom throughout the world, we have restored respect for America and have achieved the first arms control agreement in history to eliminate an entire class of nuclear missiles. And by reducing taxes and regulatory bureaucracy, we have unleashed the creative genius of ordinary Americans and ushered in an unparalleled period of peacetime prosperity. The world today is far safer, and more prosperous, than it was 8 years ago. And the America of today is, once again, brimming with self-confidence and a model for other countries to emulate. To be sure, there are challenges for the future, but I leave office confident that, with continued cooperation between the President and the Congress, America will meet these challenges and, in partnership with its allies, will continue to lead the world toward peace, prosperity, and freedom.

An Historical Perspective

Barely 40 years have passed since the end of World War II, but how the world has changed during that period. Man has walked on the Moon; products once unimagined are now commonplace; goods once considered luxuries are now necessities of life. Notwithstanding these enormous changes, the prime historical reality of this period

has been the rivalry between two competing political and economic systems. One system operates by concentrating power in the hands of the few, by limiting personal freedoms, and by centralizing economic decisions. At its best, it is a system of state paternalism; at its worst, one of tyranny.

The other system believes that power emanates from the individual, not from the state; that the function of government is to serve, not dictate to, individuals. The great democracies recognize that political and economic freedom are indivisible; policies that threaten one of these freedoms inevitably undermine the other. These two divergent systems have vied, sometimes with words and sometimes with swords, for the hearts and minds of the rest of the world.

At the end of World War II the outcome of this competition was, to some, far from certain. Many intellectuals, looking back upon the experience of the depression in the interwar period, felt that the future was with communism. These people felt that capitalism, with its emphasis on the individual and decentralized decisionmaking, could not cope with the complexity of a modern economy. In the years that followed, some countries chose state planning and state ownership over the alleged chaos of the marketplace, while many more countries had this authoritarian system imposed upon them. Centralized control was especially attractive for many newly emerging economies, which felt themselves impoverished from, and were resentful of, their colonial experience. These countries turned inward, to highly regulated economies that shunned open markets and international trade as the path to prosperity, and instead sought self-sufficiency.

Today, few doubt which of these systems will emerge triumphant. Comparisons of economies with common cultures and people, such as North and South Korea, East and West Germany, or the People's Republic of China and Hong Kong or Taiwan, uniformly show that systems that emphasized individual initiative, open markets, and personal freedoms—as opposed to collective action—have prospered most. Developing economies have increasingly recognized the benefits of the market system as they have undertaken reforms to reduce the role of government and to increase the role of international trade. Most recently, this trend has even embraced the two largest proponents of state control, as first China and now the Soviet Union have reluctantly recognized that the true chains on individual fulfillment are an overbearing government that destroys motivation and freedom.

Viewed from the perspective of one who remembers well events of 40 years ago, the prosperity that we enjoy today is extraordinary. The economic growth experienced by countries that chose the path

of economic and political freedom is virtually unparalleled in human history. This economic success is attributable to all nations that joined in pursuing market-oriented policies at home and in reducing barriers to trade among nations.

Americans can take a special pride in this postwar record. American aid to Western Europe and Japan helped rebuild those war-torn regions. America took the lead in fostering negotiations that reduced trade barriers and created international institutions that promoted financial stability and reconstruction. Open American markets not only benefited consumers at home, but also sped recovery abroad. And America took the lead in preserving the freedoms and prosperity we all enjoy. As Winston Churchill said in 1952: "What other nation in history, when it became supremely powerful, has had no thought of territorial aggrandizement, no ambition but to use its resources for the good of the world? I marvel at America's altruism, her sublime disinterestedness."

The Role of Government

As I said in my first Inaugural Address, "If we look to the answer as to why for so many years we achieved so much, prospered as no other people on Earth, it was because here in this land we unleashed the energy and individual genius of man to a greater extent than has ever been done before." The central role of government must be to nurture this genius, not to shackle it in a morass of regulations or to tax away the incentives for innovation.

This is not to deny that there are vital functions that a government must perform, but it must always do so in the least intrusive and costly fashion. The guiding philosophy of my Administration has been to leave to private initiative all functions that individuals can effectively perform for themselves, and when government action is necessary, to use the level of government closest to the community for all the public functions it can effectively handle. Federal Government action should be reserved only for those functions that require national attention. In this way government will least interfere with private incentives and will be most responsive to the wishes of the people it serves.

The Federal Government, of necessity, must provide for the national defense. Only through strength can we maintain peace and secure freedom and prosperity for ourselves and all free nations. But we must ensure that our defense money is spent wisely, not on pork-barrel projects, such as maintaining military bases that are no longer necessary. This Administration, through its words and its deeds, has shown its commitment to protecting the health and financial security of our elderly. Similarly, the government must provide a safety net

for the Nation's poor, but it must do so in a way that promotes individual initiative. Too often, government programs, created with the best of intentions, serve to prolong, rather than eliminate, poverty.

There are some limited circumstances in which government regulation of private activity may be beneficial. Few would doubt that some rules are needed to protect the Nation's water and air from pollution. However, it is imperative that all such rules and regulations be based on sound economic principles that minimize the intrusion on private decisions. Whether well or poorly designed, whether aimed at worthy or dubious objectives, these rules have one thing in common: They "tax" and "spend" billions of dollars of private funds, unconstrained by public budget or appropriations controls.

The main role of government is to provide a stable economic environment that allows each individual to reach his or her full potential. Individuals and businesses must be able to make long-run plans confident that the government will not change the rules halfway through the game. Government's drain on the economy, both through its use of resources that could be used more productively by the private sector and through taxes that destroy individual incentives, must be minimized. This Administration's long-term view of fiscal policy, which abandoned the outmoded emphasis on fine-tuning the economy, has set the basis for the record peacetime expansion we currently enjoy. This policy, in conjunction with responsible monetary policy, has led to a sizable decrease in both unemployment rates and inflation over the past 8 years. I am pleased to say that my Administration is the first in more than a generation that can lay claim to this accomplishment.

The government's economic role in the international sphere should be similarly circumspect. It is the primary responsibility of governments to promote sound and stable financial markets that encourage international commerce and to reduce barriers to trade at home and abroad. Reducing these barriers will allow markets, not governments, to determine the goods that society produces. Too often policies designed to preserve jobs in one industry reduce competitiveness and employment in other industries. A creative, competitive America is the answer to a changing world, not trade wars that close doors, create greater barriers, and destroy millions of jobs. We should always remember: Protectionism is destructionism. America's jobs, America's growth, America's future depend on trade—trade that is free, open, and fair.

The Record of the Past 8 Years

In my first Inaugural Address I stated, "The economic ills we suffer have come upon us over several decades. They will not go

away in days, weeks, or months, but they will go away." After a shaky start, necessitated by the sorry state of the economy in 1980, we now have a peacetime economy entering an unprecedented 7th year of expansion. The length, strength, and resilience of this expansion are ample testimony to the wisdom of the policies that we have pursued.

During this expansion, real GNP has risen by more than 4 percent a year, nearly double the growth rate of the previous 8 years. The growth in employment and jobs has been phenomenal; nearly 19 million nonagricultural jobs have been created during this period, with nearly 3.5 million new jobs created in the first 11 months of 1988. Furthermore, this remarkable expansion has benefited all segments of the population. While civilian employment has increased by more than 17 percent, Hispanic employment has grown by more than 45 percent, black employment by nearly 30 percent, and female employment by more than 20 percent. The decline in unemployment rates is equally dramatic—the overall unemployment rate has been cut in half, down to levels not seen in 14 years. And, assertions to the contrary, the jobs created are good ones; over 90 percent of the new jobs are full-time, and over 85 percent of these full-time jobs are in occupations in which average annual salaries exceed $20,000.

Unlike previous experiences, this expansion has been accomplished without simultaneously fueling inflation. The average inflation rate during this period, as measured by the GNP deflator, has been barely one-third the rate of inflation that prevailed in 1980. The scourge of inflation, which served as a hidden tax on the American people and diverted productive resources to unproductive uses, has been brought under control here and in our major trading partners. This, in turn, has led to a dramatic decline in interest rates, which, while still high by historic standards, are far lower than they were in January 1981. In short, we have achieved the objectives that eluded us during the 1970s—rapid economic growth and declining inflation rates.

This record has been achieved not through alchemy, but by using that good old-fashioned recipe of reducing the role of government. Too often the government has sought to solve problems best left to the private sector; and too often these solutions have had devastating side effects. We have at last learned that more government is not the solution to our problem; often it *is* the problem.

Our New Beginning has restored personal incentives through a series of tax reforms and tax cuts. These reforms have reduced the top Federal marginal income tax rate to less than one-half the level that prevailed when we took office and decreased tax liabilities at all income levels. The Tax Reform Act of 1986 improved efficiency by eliminating many tax preferences that distort private decision-

making. By reducing tax rates and tax loopholes, we have encouraged people to make money the old-fashioned way—by producing goods and services that people want, not by finding new ways to avoid taxes. The tax reforms have increased equity as well, as an estimated 4 million low-income individuals and families have been removed from the income tax rolls by 1988. If imitation is the sincerest form of praise, then the fact that many other major industrial powers have also cut their tax rates is praise indeed.

These tax reforms, combined with regulatory reforms that will result in billions of dollars of saving over this decade, have helped spur productivity growth. Since 1981, manufacturing productivity has grown at an average annual rate exceeding 4 percent, triple the rate for the preceding 8 years and nearly 50 percent faster than that for the period 1948–73. This productivity growth, combined with exchange-rate changes, has led to a surge in U.S. exports that puts to rest the notion that U.S. industry is no longer competitive.

We have also made progress in reining in government expenditures, but much still needs to be done. We have reduced the rate of growth of Federal spending, and over the past 5 years government spending as a percent of GNP has fallen from 25.1 to 23.2 percent. Significant progress has also been made in reducing the budget deficit, both in absolute terms and as a percent of GNP, but further progress can be made only by reducing government spending. Tax increases would only threaten the enormous progress that has been made so far.

Our successes extend to the international sphere as well. The strong U.S. recovery, coupled with a weaker recovery abroad, helped create a sizable U.S. trade deficit. While the trade deficit has been significantly reduced during the past year as a result of our surging exports, it has served as an excuse for those seeking protection from foreign competition. Protectionism, like most forms of government intervention in the economy, serves only to enrich the few at the expense of the many. We have successfully resisted this protectionist pressure, while pursuing major trade liberalization efforts abroad.

The Israel-United States Free-Trade Agreement was the first such agreement entered into by the United States. The recently implemented Free-Trade Agreement with Canada represents an historic step forward for two staunch allies. In addition to creating the world's largest free-trade area between two countries and generating large benefits for both countries, it serves as a model of what can be accomplished in other negotiating forums. The United States remains committed to full multilateral liberalization, as reflected in the fact that we are the driving force behind the current Uruguay Round of multilateral negotiations under the General Agreement on Tariffs

and Trade. While these negotiations are not scheduled to conclude until 1990, the results of the recent Mid-term Review indicate that they will result in significant reductions in trade barriers and a significant expansion in trade coverage.

Rather than succumbing to protectionist pressures at home, we have vigorously combatted unfair trade barriers abroad. This was the first Administration to seek, on its own initiative, changes in foreign trade practices that harmed American business. These policies have helped reduce foreign trade barriers and given American companies a chance to compete on equal terms.

The Challenges Ahead

As proud as I am of these and many other accomplishments, I will be the first to admit that the agenda is not yet completed. First, and foremost, is a need to reform the budget process and to bring Federal spending under control. The large budget deficit that this Nation faces is not a result of too few taxes, but too much spending. Strong economic growth and the base-broadening effect of tax reform have led to sizable increases in Federal receipts. According to current projections, these receipts will have increased by over $375 billion between fiscal years 1981 and 1989, but spending will have increased more rapidly—by more than $450 billion over this 8-year period. Projections indicate that Federal revenue will grow by more than $80 billion during the next fiscal year. All that is required to reduce the deficit is to halt, or moderate, the increase in expenditures.

Gramm-Rudman-Hollings is a first step toward bringing the deficit under control. However, further progress toward reform of the budget process is needed. Under current practice, funding for special-interest groups is combined with vital appropriations, leaving the President the choice between vetoing the entire package or accepting some funding that he knows is not in the national interest. To prevent this waste of taxpayers' money, the President needs what most governors already have—a line-item veto and enhanced rescission authority.

Moreover, the current budget process places no real restraint on congressional appropriations, because expanded spending on one program does not require reduced spending on other programs. Too often the temptation is to raise taxes, not lower spending. A law that requires a super majority of the Congress to approve waivers of spending limits or tax limits would help ensure that taxpayers' hard-earned dollars are spent wisely, and that the temptation to increase tax burdens is resisted. Furthermore, reform of government credit operations is required to limit new subsidies and to guarantee that the true costs of these measures are not hidden from public scrutiny.

These reforms, together with the balanced budget amendment that I have repeatedly endorsed, would guarantee the fiscal prudence that is needed to sustain the dramatic expansion of the past 6 years. Limiting government expenditures would also help stimulate the private investment that is required to ensure that the next generation of Americans can look forward to the same increase in living standards that previous generations have enjoyed.

Despite the enormous progress we have already made in bringing down inflation, there is still work to be done. Inflation is a hidden, insidious way of taxing the American people. Price stability, not merely lowered inflation, is the key to maintaining the vigor of the American economy and the strong international role of the dollar. Stable, predictable monetary policy can provide the type of price stability that benefits not only our own economy, but also provides significant benefits to those developing countries that are so dependent upon us.

Perhaps most importantly, the challenge for the future is to maintain and expand upon the progress we have made in taking economic decisions away from the government and returning them to the private sector, where they properly belong. Governments are notoriously bad at identifying "industries of the future," and efforts to have the government formulate and implement industrial policy must be strongly resisted. For decades, government policies throughout the world have distorted agricultural production and trade. Adoption of our bold proposal to phase out these policies in the United States and other major producing countries would result in enormous efficiency gains. And, while major deregulatory gains have been made, much more can be accomplished. Reduced regulation of vital sectors, including transportation, energy, and financial industries, has led to significant increases in productivity and to sizable gains for consumers. Further deregulation of the financial sector can help preserve this country's position as the financial capital of the world. Finally, we must resist pressure to increase government requirements for mandated benefits. These programs, while well-intentioned, increase costs, reduce labor market flexibility, and reduce productivity. They undermine the competitiveness of American business and they ultimately hurt the very people they are supposed to benefit.

Conclusion

In 8 short years, we have reversed a 50-year trend of turning to the government for solutions. We have relearned what our Founding Fathers knew long ago—it is the people, not the government, who provide the vitality and creativity that make a great nation. Just as the first American Revolution, which began with the shot heard 'round

the world, inspired people everywhere who dreamed of freedom, so has this second American revolution inspired changes throughout the world. The message that we brought to Washington—reduce government, reduce regulation, restore incentives—has been heard around the world.

I leave office secure in the knowledge that these policies have worked, and confident that this great Nation will continue to lead the way toward freedom and prosperity for all mankind.

Ronald Reagan

THE WHITE HOUSE,

JANUARY 10, 1989.

THE ANNUAL REPORT
OF THE
COUNCIL OF ECONOMIC ADVISERS

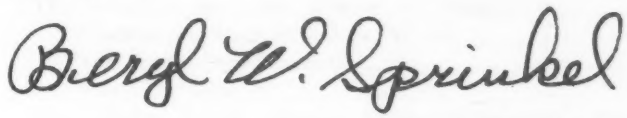
LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS,
Washington, D.C., January 6, 1989.

MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1989 Annual Report in accordance with the provisions of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,



Beryl W. Sprinkel
Chairman

Thomas Gale Moore
Member

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CHAPTER 1

Free Markets, Stability, and Economic Growth

THE FOUR DECADES SINCE WORLD WAR II stand out as a period of remarkable growth for the developed market economies. More people in more countries increased their standard of living than in any other era. Real gross national product (GNP) per capita in each of the major industrialized nations has grown significantly faster since 1948 than before World War II. This success is based in part on reliance by the United States and the other nations on private incentives and free markets, with governments attempting to provide both a stable macroeconomic framework and a stable world political environment. The result has been strong economic growth and large improvements in social conditions for the United States and other nations.

In the United States real income per capita and real reproducible tangible wealth per capita more than doubled between 1948 and 1987. These gains were widespread, with real family income more than doubling for both those at the highest and the lowest fifth of the income distribution. The poverty rate dropped from 30.2 percent in 1950 to 13.5 percent in 1987 (8.5 percent if noncash benefits are included). Most of the drop occurred before the rapid rise in transfer programs. Life expectancy rose from 67 to 75 years. Increases in wealth, pensions, and insurance allowed more people to enjoy these extra years; the labor force participation rate of those 65 and over fell from 27.0 to 11.1 percent. The average workweek fell from 42.8 to 38.7 hours. The percentage of the population with private health insurance increased from 51 in 1950 to 77 in 1985. Most measures of environmental pollution also showed improvement; parts per metric ton of suspended particulates in the air fell from 24.5 million in 1950 to 7.3 million in 1985.

The current expansion represents a continuation—after the stagflation of the 1970s and early 1980s—of this extraordinary postwar record of sustained growth. During this recordbreaking peacetime expansion the trend toward higher unemployment and inflation that characterized stagflation has been reversed. (A discussion of the accomplishments of the current expansion appears in Chapter 7.) The

success of the current expansion rests upon a philosophy that has served the United States well in the past: the private sector is inherently stable and is the fundamental source of economic growth. Government's appropriate role is to foster the inherent dynamism of the private sector. It can do so by improving private incentives and providing a framework for economic and political stability, basic public infrastructure, and a social safety net and by promoting open and flexible markets.

As this chapter and this *Report* demonstrate, during the postwar era and throughout the 20th century, when government has confined itself to this role, strong increases in standards of living have been recorded. In contrast, when government has departed from its appropriate role, incentives have become distorted and the United States and other countries have recorded poorer economic performances.

The other chapters of this *Report* expand on these themes in various areas of policy that have contributed to the sustained growth during the postwar period. The chapters address the contributions of fiscal policy (Chapter 2), international trade and finance (Chapters 3 and 4), regulation (Chapter 5), and science and technology (Chapter 6) to the outstanding economic performance in the postwar period and especially in the 1980s.

Lessons from Past Policy: The Employment Act of 1946 arose out of the policy mistakes of the Great Depression. The act was amended in 1978 as a result of dissatisfaction with increasing unemployment and inflation. The act charges the Federal Government with promoting maximum employment, production, and purchasing power, with "maximum reliance on the resources and ingenuity of the private sector." How best to achieve these goals has been the central question that economic policymakers have addressed during the postwar period. Government can make, and has made, two major mistakes in promoting these goals. Policy can be so passive that it is procyclical, exacerbating cyclical downturns. By contrast, policy can be so active that it increases instability and uncertainty.

The Great Depression provides a critical example of the first mistake. Throughout the decline, the Federal Reserve failed to function as the supplier of liquidity. The money supply contracted along with the economy, contributing to the economic collapse: employment, production, and real incomes plummeted.

The 1970s provide an example of the second mistake, with policy misperceiving short-term events for lasting changes. Stop-go policies, which employed monetary and fiscal policy to react to the oil crisis and other transitory shocks, resulted in higher unemployment and higher inflation. High and variable inflation, interacting with the Tax Code, reduced incentives, productivity, and real income growth. De-

spite the positive aims of the policies, problems of information, lags, and uncertain response caused the stabilization policies to be destabilizing. Policy fell short of the goals of the Employment Act: unemployment rose while productivity growth and real family income stagnated.

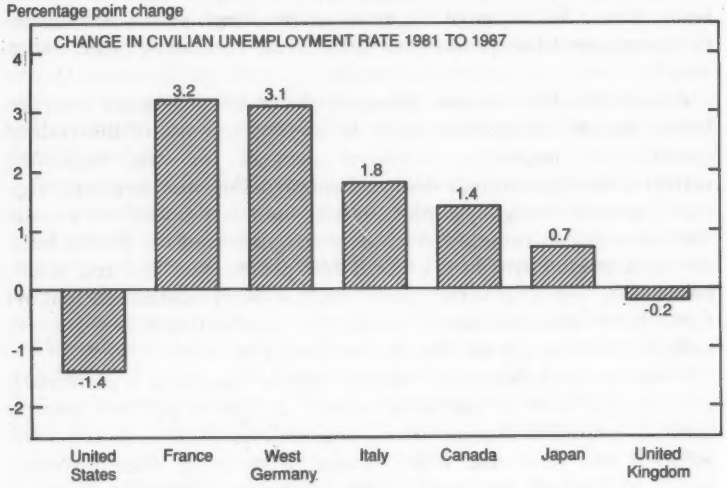
Policy in this Administration: The goal of this Administration has been to reinvigorate the private sector by limiting the size of the Federal Government, improving incentives through tax cuts, improving market flexibility through deregulation, avoiding new structural rigidities, and encouraging noninflationary monetary policy. As a result the economy has rebounded from the stagflation of the 1970s. Inflation and unemployment are down and productivity and real family income are up. The social safety net has been maintained and reforms have been introduced to help the disadvantaged become self-sufficient and escape the dependency trap of poverty.

Economic performance during the current expansion is particularly impressive relative to that of the major U.S. trading partners, particularly the nations of Europe. These countries have also achieved lower inflation but have had little success in reducing unemployment, which traditionally has been much lower than U.S. unemployment (Chart 1–1). The United States in the 1980s has reestablished itself as the role model for economic policy and sparked a worldwide tax revolution, with all seven of the major industrialized nations (G-7) that have participated in the recent economic summits reducing their marginal tax rates.

Policy in the Future: It is said that the past is prologue. This chapter endeavors to identify the common threads that underlie the more, as well as the less, successful periods in 20th century U.S. economic history, paying particular attention to the postwar period and the critical role of stable policy, taxes, and inflation on private incentives, investment, productivity, and standards of living. It looks at the importance of free trade, highlighting the protectionist actions during the 1920s and early 1930s that contributed to the depression of 1933. The chapter looks at the postwar distribution of income, examining the relative contribution of economic growth to improvements in the standard of living. The discussion also identifies some groups whose postwar experiences have been somewhat better or somewhat worse than the average. The role of policy in this period is examined.

This review of U.S. economic history suggests that the more successful periods were grounded in a reliance on private markets, a commitment to free trade and the reduction of trade barriers, the development of institutions to provide stability in domestic and international financial markets, strong private investment supplemented by

Chart 1-1
Change in Unemployment Rates in the Seven Summit Countries



Note.—Data for West Germany and Italy adjusted for discontinuities.
Source: Department of Labor.

government investments in basic infrastructure, and changes in tax laws and regulations to improve private incentives.

Looking to the future, the U.S. economy should continue to rely on the strength of private markets while promoting a framework for domestic and international stability. Work remains on achieving non-inflationary economic growth, lowering trade barriers, avoiding isolationism and protectionism, and improving incentives for business investment. The deregulatory effort should also move forward, and mandated benefits and other new laws and regulations that reduce market flexibility should be avoided. Finally, the budget deficit must be reduced by slowing Federal Government spending and focusing spending on investments in infrastructure and on providing basic public services.

THE PRE-WAR YEARS

The pre-war years offer two examples of the growth potential of private markets when provided with what, for early U.S. economic

history, could be described as relative stability. They also contain one strong example of the effect of instability in government policy.

The period from 1900 to 1913 was one of vigorous economic growth in the United States. Moderate growth in the supply of gold sustained expectations of long-term price and economic stability. Despite bank runs and financial "panics," which were recurring problems that plagued the U.S. economic system prior to World War II, money growth was adequate to support growth and trade without deflation. Strong growth in trade and abundant opportunities for expansion buoyed business expectations and encouraged investment. The United States enjoyed particularly robust growth, exploiting its natural resources, embarking on large private and public investments, obtaining advantages from trade and high rates of immigration, and achieving economies of scale from its large and growing market. Real GNP grew at a 3.9 percent annual rate and real GNP per capita grew at a 2.0 percent annual rate (Table 1–1), well above the long-term trend for the United States.

TABLE 1–1.—*Growth Rates in Real GNP/GDP, Selected Periods, 1900–88*

[Average annual percent per year]

Period	United States	Japan	West Germany[1]	United Kingdom	France	Italy	Canada
	Real GNP/GDP						
1900 to 1913	3.9	2.5	3.0	1.5	1.7	2.8	5.5
1920 to 1929	4.3	3.4	4.9	1.9	4.9	3.0	4.0
1930 to 1938	.4	6.3	4.4	2.2	−.1	2.3	.3
1948 to 1973	3.7	9.1	7.0	3.0	5.3	5.7	5.1
1973 to 1981	2.1	3.7	1.9	.7	2.6	2.6	3.8
1981 to 1988	3.0	3.8	1.8	2.9	1.8	2.3	3.1
1900 to 1938	2.3	3.5	2.4	1.3	1.1	2.0	2.8
1948 to 1988	3.3	7.1	5.0	2.6	4.1	4.4	4.5
1900 to 1988	3.1	4.2	2.9	1.8	2.4	2.9	4.0
	Real GNP/GDP per capita						
1900 to 1913	2.0	1.2	1.6	0.7	1.5	2.2	2.6
1920 to 1929	2.7	2.0	4.2	1.4	4.3	2.1	2.2
1930 to 1938	−.3	4.8	3.8	1.8	−.2	1.5	−.8
1948 to 1973	2.2	7.8	5.7	2.8	4.3	5.0	2.8
1973 to 1981	1.1	2.7	2.0	.7	2.1	2.2	2.5
1981 to 1988	2.0	3.2	1.9	2.7	1.3	2.0	2.2
1900 to 1938	.9	2.2	1.9	.9	.9	1.2	.8
1948 to 1988	1.9	5.9	4.2	2.2	3.3	3.9	2.7
1900 to 1988	1.7	3.0	2.7	1.5	2.0	2.2	2.1

[1] Pre-war estimates for West Germany are adjusted for territorial change.

Sources: 1988, estimates derived by Council of Economic Advisers; for the United States, 1900–87, Department of Commerce (Bureau of Economic Analysis); for other countries, 1900–50, A. Maddison, *Phases of Capitalist Development*, and 1950–87, unpublished data from Department of Labor (Bureau of Labor Statistics).

In 1913 U.S. capital per worker, GNP per capita, and productivity were higher than in the other major industrialized nations; average real output per person hour in the other six major industrialized nations of the world was 57 percent of U.S. productivity. Between 1900 and 1913 U.S. real GNP growth was higher than in the other major

industrialized nations except Canada, which shared the high investment rates and other attributes that benefited the United States (Table 1–1).

Improvements in economic conditions in the United States also had a large effect on social conditions. Higher real incomes were accompanied by better nutrition, better housing, better education, improved working conditions, increased numbers of health providers, and increased use of medical services for a large proportion of the population. Public health investments supplemented these improvements. Between 1900 and 1913 the death rate fell nearly 20 percent, from 17.2 to 13.8 per thousand. By 1986 the rate was down to 8.7 per thousand.

After a relatively severe recession following World War I, growth resumed in the 1920s. Money supply growth held at a relatively steady noninflationary rate—prices declined at a gradual 2.1 percent annual rate—and some observers have described the period as the high tide of the Federal Reserve System. Major reductions in tax rates improved private incentives and encouraged growth and investment during this period.

Between 1920 and 1929, the net stock of business capital increased more than 20 percent, while the net stock of government and institutional capital increased more than 50 percent. Real GNP grew at a 4.3 percent annual rate and real GNP per capita increased at a 2.7 percent annual rate, significantly above long-term trend growth for real GNP and GNP per capita. During this period death rates dropped another 8.5 percent, for a total drop of 31 percent since 1900.

Despite the relatively good domestic performance in the 1920s, problems began to arise on the international front. Britain's relative decline left a gap in trade and monetary policy that remained unfilled. The United States was reluctant to take over this role from the United Kingdom and entered a period of isolationism. With no clear worldwide framework replacing the pre-1914 arrangements, each nation pursued its narrow self-interest, particularly in the 1930s.

The Allies did little to aid the defeated central powers to recover from World War I. Their requirements for heavy war reparations contributed to hyperinflation in Germany.

Trade relations also suffered from isolationism during this period. In 1922 the Congress passed the Fordney-McCumber Act, raising already high tariff barriers. The tariff rate on dutiable imports rose from an average of 16.4 percent in 1920 to 44.7 percent by 1930. The Smoot-Hawley Act of 1930 raised tariffs even higher and ushered in an era characterized by beggar-thy-neighbor policies; by 1932 the tariff rate on dutiable imports reached 59.1 percent. Other coun-

tries retaliated and some moved toward autarky; still others formed rival trading blocs. Global protectionism sparked by U.S. actions contributed significantly to the severity of the Great Depression.

By 1931 the United Kingdom had abandoned the gold standard. During the rest of the decade other countries, including the United States, followed. Exchange rates were not permitted to fluctuate freely, nor were they fixed to gold or other commodities. Countries used devaluation and exchange-rate market intervention to improve their relative positions.

Paralleling and contributing to these failures in international economic policy were failures in domestic monetary and fiscal policy. Appropriate monetary policy could have reduced the severity of the Great Depression and shortened its duration. Instead, as the economy contracted, the Federal Reserve clung to a policy that resulted in a falling money supply. Money moved in a procyclical manner providing only sufficient liquidity for the much reduced needs of trade and doing little to stem the collapse of banks that further reduced the money supply and economic activity. Between 1929 and 1933 the money supply contracted by nearly one-third and prices dropped by one-fifth.

During the 1930s fiscal actions also erred, reacting to the temporary fall in revenues resulting from the contraction. In 1932, with unemployment at 23.6 percent, the Revenue Act of 1932 introduced the largest peacetime tax increase enacted up to that time in U.S. history.

The effect of these policies was staggering. Real investment plummeted and the net business capital stock declined by 9 percent between 1929 and 1933. Over the same period real GNP and real per capita GNP fell by more than 30 percent. Unemployment increased from 3.2 to 24.9 percent. Trade collapsed as real exports declined 46 percent and real imports by 35 percent.

Although the most important policy events of the Great Depression were protective tariffs and the failure of monetary policy, bank runs contributed to the severity and duration of the 1930's decline, as they had in several earlier periods. As a consequence, the Congress established institutions to mitigate the effect of recessions and reduce their severity. Among these were unemployment insurance and the Federal Deposit Insurance Corporation (FDIC) in 1933. The FDIC provided assurance that the Federal Government would guarantee a fixed amount of individuals' deposits. The insurance system later developed serious flaws and encouraged excessive risk-taking by banks. At the time, however, it provided a crude solution for bank failures that had characteristically occurred during recessions in the United States.

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THE EARLY POSTWAR PERIOD: THE UNITED STATES TAKES THE LEAD IN TRADE, STABILITY, AND GROWTH

The 1950s and 1960s brought a period of stability, trade expansion, and economic growth that stands in marked contrast to the violently destabilizing policies and protectionism of the 1930s. The destruction in Europe and Japan during World War II left the United States as the clear political and economic leader of the world, with a higher capital stock and GNP per capita than the other major nations of the world. From this position of leadership, the United States worked toward a stable, free-market framework of domestic and international rules and institutions.

Between the postwar cyclical peaks of 1948 and 1973, real GNP in the United States grew at a 3.7 percent annual rate while in the other six summit nations it grew at an average 5.9 percent annual rate. Growth in the United States and other countries was strong relative to historical growth. The U.S. early postwar growth rate of 3.7 percent is significantly above both the long-term trend 1900–88 growth rate of 3.1 percent or the pre-war 1900–38 rate of 2.3 percent. Investment was strong and wealth per capita, as measured by the net stock of reproducible fixed capital in 1982 dollars, rose at a 2.4 percent annual rate. Productivity grew at a 2.9 percent annual rate and the civilian unemployment rate averaged 4.8 percent.

In contrast to the deflation of the interwar period, a moderate trend toward inflation appeared in the developed nations in the postwar period. In the United States the average annual rate of inflation as measured by the change in the GNP implicit price deflator between 1948 and 1973 was 3.0 percent.

SOURCES OF ECONOMIC GROWTH: 1948–73

A Large and Growing Capital Stock: World War II devastated the economies of Japan and Europe. Their capital stocks were greatly reduced as was their labor force. The United States, which had higher investment rates than other nations throughout most of the 1900s, had continued to invest and its capital stock continued to grow during the war, although at a reduced rate, and emerged from World War II with an even larger capital stock in absolute size and relative to other countries. By 1950 the U.S. gross stock of nonresidential capital per worker was larger than that of other major industrialized nations, and their average capital to labor ratio was less than one-half the U.S. capital to labor ratio (Table 1–2). Partly as a result, U.S. GDP per capita was also more than twice the average for the other six major industrial nations.

The United States was the world's technological leader. Its technology was generally the best-practice technology available. Produc-

TABLE 1–2.—*Real Capital Stock per Worker and GDP per Capita Relative to the United States, Selected Years, 1913–87*

[United States = 100]

Year	United States	Japan	West Germany[1]	United Kingdom	France	Italy	Canada
	Real gross nonresidential fixed capital stock per worker						
1913	100.0	9.0	60.0	60.8	49.3	24.0	(2)
1950	100.0	15.5	50.8	49.8	56.0	33.3	88.1
1973	100.0	46.9	88.4	58.6	78.2	55.6	98.4
1984	100.0	90.0	111.0	65.0	101.0	(2)	(2)
	Real gross domestic product per capita[4]						
1913	100.0	23.4	59.5	85.4	62.4	50.0	81.3
1950	100.0	16.1	36.1	60.5	42.5	33.7	70.3
1973	100.0	59.2	68.3	66.2	66.9	61.3	84.1
1981	100.0	67.6	73.7	64.6	73.0	67.2	94.6
1987	100.0	71.8	72.6	67.0	69.8	65.8	94.8

[1] Pre-war estimates for West Germany are adjusted for territorial change.
[2] Not available.
[3] Latest data available are for 1978: Italy, 63.1, and Canada, 104.8.
[4] Based on purchasing power parity exchange rates.

Sources: Capital stock per worker: A. Maddison, *Phases of Capitalist Development* and "Growth and Slowdown in Advanced Capitalist Economies," *Journal of Economic Literature* (June 1987); GDP per capita: Department of Labor (Bureau of Labor Statistics).

tivity per man-hour of the other six major industrialized nations of the world averaged 43 percent of U.S. productivity in 1950. Before the war in 1938, the average productivity for the other nations had been 57 percent of U.S. productivity.

Improved transportation, lower tariffs, and U.S. economic aid and technological assistance through programs such as the Marshall Plan helped the war-ravaged nations to bridge the technology and productivity gap. With these changes, literate and trained labor forces, and U.S. assistance, the other nations were able to raise their productivity by increasing their rate of investment in new plant and equipment embodying U.S. technology. Although this investment did require the development of adaptive technologies to modify U.S. technologies to their own special needs, it was a much less expensive, less risky, and less time-consuming process than developing their own new technologies.

The availability of this U.S. technology in combination with low capital-labor ratios produced high returns to new capital investment abroad. Between 1950 and 1973 capital per man-hour by the next six largest industrialized nations grew over one and one-half times as fast as U.S. investment, and their productivity grew twice as fast. Prior to World War II, U.S. investment rates had been higher than those for most other industrial nations and U.S. productivity growth from 1900 to 1950 was roughly 50 percent higher than the average for the other major industrialized nations.

No parallel rapid acceleration occurred in U.S. productivity growth during the first 20 years of the postwar period. As the technological leader, U.S. productivity growth had been relatively steady during the

1900s. U.S. firms generally used best-practice technology and since there was no backlog of technology to exploit, increases in productivity were largely restricted to the rate of new technological innovation.

Relatively good rates of business investment between 1948 and 1973, however, resulted in the net stock of business fixed capital growing at a 3.9 percent annual rate and net capital per worker at a 2.4 percent rate. Faster growth occurred in the early part of the period and slower growth after 1966: net private capital per worker grew at a 2.5 percent annual rate between 1948 and 1966, and slowed to 2.1 percent between 1966 and 1973.

These increases in private business capital were supplemented by increased government investment in physical and human capital infrastructure. Work began on the Federal Interstate Highway System in 1956 and spending on it peaked in the mid-1960s. Between 1948 and 1973, the stock of educational structures also grew rapidly in response to the increase in the school-age population. Investments in sewer systems and water supply facilities responded to increasing urbanization, and investments in public airports responded to increased air travel. Between 1948 and 1973 the net stock of real nonmilitary government capital grew at a 4.0 percent annual rate, with investment peaking in the mid-1960s.

Paralleling these trends in investment, productivity grew at a 3.3 percent rate between 1948 and 1966 and at a 2.1 percent rate between 1966 and 1973. Over the entire period U.S. productivity rose at a solid 2.9 percent annual rate.

The United States also led in the first 25 postwar years in developing human capital. The Nation's educational attainment levels were above those of the other six summit nations, although the educational advantage of the United States over other nations appears to have been smaller than its productivity and technological advantage. Between 1948 and 1973 the percentage of the U.S. population over 17 years of age with high school degrees increased from 52.9 to 74.3 percent, with the largest increases occurring between 1948 and the mid-1960s.

Trade Policies: As part of its commitment to freer markets and more open trade, the United States pushed for rules under the General Agreement on Tariffs and Trade (GATT) to provide a framework for multinational negotiations and the gradual reduction of tariff barriers. At first, GATT was extremely successful because its members accounted for 80 percent of world trade. Tariff barriers in the major industrialized countries and the less developed countries fell dramatically. In the United States the average *ad valorem* tariff fell from an average rate of 59.1 percent on dutiable imports in 1932, after the disastrous Smoot-Hawley Act, to 13.1 percent in 1950, and dropped

further to 5.2 percent by 1987. (Chapter 4 discusses tariffs and international trade policy in more detail.)

The United States also did much to help other industrialized nations redevelop their economies and to help the less developed nations grow. In contrast to the reparations imposed following World War I, the United States, through the Marshall Plan, helped the European nations to increase production, restore internal financial stability, and achieve the benefits of scale economies and efficiencies that come from specialization and competition. Later the United States also supported the development of the European Community (Common Market) to continue the movement toward a larger and more efficient market in Europe.

During the postwar occupation the United States helped Japan to reorganize its government and redevelop its economy. Throughout the postwar period the United States also did much through direct aid and through various organizations to improve the position of the developing nations in Latin America, Africa, and in the Middle and Far East.

Accompanying these trade development policies were lower costs of transport and a faster flow of technological know-how from the United States to other nations. The result was an explosion of trade and growth.

Financial Stability: Paralleling the development of GATT and the reduction of tariff barriers was the development of a new monetary standard to facilitate exchange and financial stability. With the problems associated with the collapse of the gold standard on their minds, financial officials of the Allied Powers met at Bretton Woods, New Hampshire, in 1944 to plan the creation of the International Monetary Fund (IMF). They agreed on an international system of pegged but adjustable exchange rates that attempted to balance the need for stable fixed exchange rates with the desire to accord a higher priority to domestic stability.

Through the IMF, loans were made available to countries with temporary balance of payments problems. Surplus countries lent to deficit countries to avoid the need for contraction in deficit countries and the concomitant reduction in trade and demand for the rest of the world. Countries that chose to keep policy consistent with that of the United States could achieve both stable exchange rates and low inflation by pegging their currency to the U.S. dollar. Countries with persistent problems were expected to adjust their exchange rates.

In the early years of the system, good U.S. economic growth and moderate U.S. monetary growth allowed the U.S. dollar to serve as an international currency, providing a more stable payment system than in the interwar years to finance expanding trade opportunities.

Under the new dollar-gold exchange standard the United States maintained convertibility of the dollar at $35 an ounce with other central banks. Other nations fixed their currencies to the dollar, thus providing international convertibility of major currencies by the late 1950s.

This system was not perfect but it worked well for a time. Flaws began to be evident in the 1960s. The system had no method for distinguishing between permanent and temporary balance of payments imbalances, and as a result could not prevent several "crises" with disruptive changes in currency values. More importantly, increases in U.S. monetary growth during the 1960s put pressure on other countries to buy dollars, increasing their own money supply, to prevent their exchange rates from appreciating. This spread inflation to other countries. Inflation and excessive monetary growth raised doubts about the U.S. ability to maintain convertibility. Other countries were reluctant to revalue their currencies upward against the dollar and used trade and capital controls to limit capital flows and reduce balance of payments pressures.

The Bretton Woods Agreement of exchange rates collapsed in 1971, and by 1973 had been replaced by the flexible exchange-rate system that exists today. The lesson from this experience is that a monetary system based on pegged but adjustable exchange rates cannot work without all participants following compatible policies to achieve common rates of inflation.

Relative Stability in Macroeconomic Policy: During this period the United States established policies dedicated to maintaining full employment and avoiding the procyclical swings in fiscal and monetary positions that had contributed to the severity of the previous business cycles. Although the period was not free from policy errors, from today's perspective the result—whether intended or unintended—was relatively steady moderate growth in money until the mid-1960s, and fiscal integrity in taxes and spending.

Prior to the postwar period severe depressions had occurred in 1867, 1873, 1893, 1907, 1920, and 1929 according to the chronology developed by the National Bureau of Economic Research. Including recessions as well as depressions, the length of the average contraction between 1854 and 1945 was 21 months, with a contraction occurring on average once every 4 years. During the postwar period the length of the average contraction has been halved to 11 months with a contraction occurring on average once every 5 years.

Contractions have also become less severe. In contrast to the 25 percent unemployment rate in 1933, the highest unemployment rate during the postwar period has been 10.8 percent. The human costs associated with postwar unemployment were also lower than in earli-

er periods. Whereas in earlier periods the unemployed person was usually the head of the household, in the postwar period many of the unemployed were likely to be secondary wage earners or teenagers working part time. Also, in earlier periods no unemployment insurance system softened the impact of temporary layoffs.

Between 1900 and 1938 real GNP grew at a 2.3 percent annual rate and real GNP per capita grew at a 0.9 percent annual rate. Between 1948 and 1973, without the large losses associated with the depression, real GNP grew at a 3.7 percent annual rate, and, despite the baby boom, real GNP per capita grew at a 2.2 percent annual rate.

Part of the improvement in growth and reduction in cyclical instability was the result of the introduction of built-in stabilizers and other institutional changes, but a part was attributable to improvements in monetary policy. The Federal Reserve did not repeat the dramatic contraction of the money supply of the 1930s. Instead, policy tended to err in the opposite direction, producing inflation.

In the period during and immediately following World War II, the Federal Reserve tried to peg long-term Treasury bond rates so as to keep Treasury debt-service costs low. After an increase in inflation at the start of the Korean war the policy was abandoned in 1951. It was followed first by a period of controlling net free reserves, and later by a period of targeting short-term interest rates.

In the 1960s monetary policy shifted. The focus on interest rate control interacted with changes in aggregate demand to produce faster growth in the money supply and higher inflation. Growth in M2 (a measure of the money stock) increased from 5.3 percent between 1951 and 1960 to 8.1 percent between 1961 and 1973. Money growth also became more volatile, particularly in the latter half of the 1960s, and the variance of M2 growth increased from 1.6 percentage points in the 1950s to 6.7 percentage points between 1960 and 1973.

The Kennedy-Johnson Administrations responded to increased inflation by setting up an informal system of price and wage control. Guideposts attempted to put a lid on prices and hold wage increases to the average rate of productivity growth. The plan was based on the conjecture that inflation could be controlled by preventing certain sectors, such as steel, from setting the pace for large wage and price increases in other industries. The guideposts ultimately failed when increases in money and aggregate demand caused a broad-based increase in prices. The clear lesson was that inflation responds to maintained money growth, and control of prices and wages by means of jawboning is of little benefit.

The Administrations of the 1960s also introduced an era of increased emphasis on discretionary fiscal policy. Confidence in short-

term stabilizing fiscal mechanisms was high. Policymakers believed that more active use of short-run discretionary policies could have avoided, or significantly tamed, even the moderate cycles of the 1940s and 1950s. They intended to lower unemployment and raise real GNP growth without setting off higher inflation. An interim 4 percent unemployment target was set as the full employment rate that would not set off "demand-pull" inflation.

The first major discretionary fiscal move introduced explicitly to push the economy toward full employment was the Revenue Act of 1964. This act cut marginal tax rates from a high of 91 percent to 70 percent and lowered other rates as well. The act, along with Vietnam war spending and monetary stimulus, did indeed lower the unemployment rate, which dropped from 5.2 percent in 1964 to 3.5 percent in 1969.

These expansionary policies would have had a larger immediate effect on inflation had it not been for the fixed exchange-rate system. The Johnson Administration increased social spending and spending for the Vietnam war. From the viewpoint of many nations the United States was financing the Vietnam war with faster money growth. Under the Bretton Woods system, other countries were buying dollars and increasing their own money supplies to prevent their currencies from rising in value against the dollar. Many nations charged that the United States was exporting its inflation. (Chapter 3 discusses the breakdown of the Bretton Woods system in more detail.)

The initial effects of stimulative monetary and fiscal actions during the period were positive; the longer term negative consequences had yet to materialize. Along with the long expansion and low but rising inflation came a reduction in the magnitude and frequency of fluctuations, which was a significant spur to entrepreneurial expectations and investment plans. The threat of deflation appeared to be gone, replaced by a moderate upward drift in prices.

Buoyant business expectations and high real returns to new investments helped net nonresidential fixed investment to reach a postwar high in the mid-1960s, before inflation began to accelerate. Investment overseas grew even faster, as countries worked to increase their capital stock and to take advantage of U.S. technology embodied in new investments.

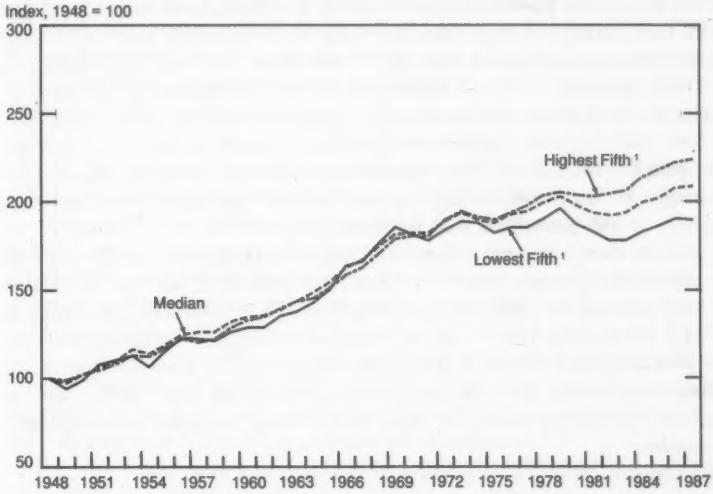
SOCIAL PERFORMANCE

Standards of living improved dramatically in the early postwar period. Between 1948 and 1973 real disposable income per capita grew at a 2.4 percent annual rate and real median family income grew at a 3.1 percent annual rate. These gains were evenly distributed, with real family income growing at a 2.9 percent annual rate for

families at the lowest fifth of the income distribution and at a 3.1 percent rate for those at the highest fifth (Chart 1–2).

Chart 1-2

Real Family Income Relative to 1948 Levels



[1]The highest fifth refers to real family income at the 80th percentile while the lowest fifth refers to real family income at the 20th percentile.
Note.—Fixed-weighted price index for personal consumption expenditures used as deflator.
Source: Department of Commerce.

Among unrelated individuals, which include the elderly living alone, the same pattern was repeated, with all groups—with one exception—showing similar gains. The exception was that for unrelated individuals, the lowest fifth of the income distribution showed larger gains than other groups. Also, as a group, unrelated individuals did better than families, with their real median income growing at a 3.5 percent annual rate between 1948 and 1973.

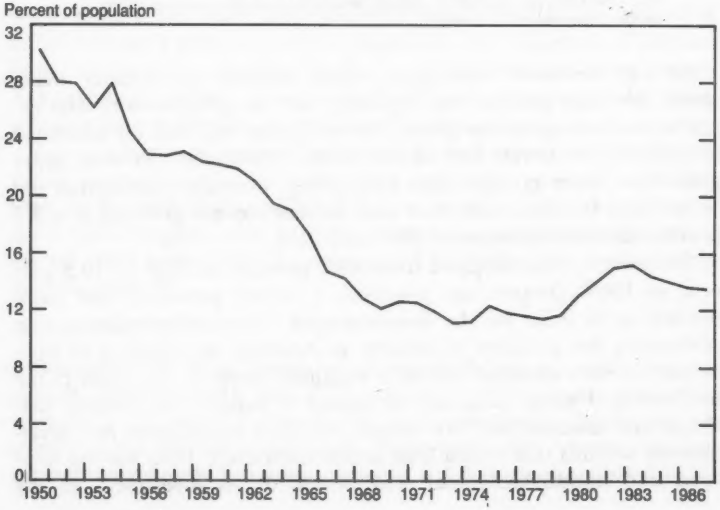
The poverty rate dropped from 30.2 percent in 1950 to 19.5 percent in 1963. Despite this progress, a feeling persisted that more needed to be done for the disadvantaged. Twenty-five years ago, in addressing the problem of poverty in America, the Council of Economic Advisers outlined a plan to eliminate poverty. The plan called for increased social insurance programs to support the elderly, disabled, and unemployed. For others, the plan emphasized the development of skills that would lead to self-sufficiency. Help for the nonaged and nondisabled poor was viewed as an investment in the

future, involving improvements in education, health, and community rehabilitation. The objective was to deal with the long-term causes rather than short-term symptoms of poverty, in hopes of bringing an end to the dole. The idea, according to President Kennedy, was "to give a hand, not a handout."

The war on poverty began in 1964, but the largest dollar increases in real public aid expenditures came between 1966 and 1973. Real expenditures increased from $14.4 billion in 1963 to $22.3 billion in 1967, but rose to $56.3 billion by 1973. Real spending for old-age, survivors, and disability insurance programs followed a similar pattern. Although the antipoverty programs clearly helped some groups, especially the elderly, their net effect is difficult to assess because the programs occurred during a period of low unemployment and relatively good growth in real income. Also, the largest declines in the poverty rate occurred before the largest increases in transfer expenditures. The poverty rate for persons fell from 30.2 percent in 1950 to 14.2 percent in 1967, but fell only another 3.1 percentage points, to 11.1 percent by 1973, with over half of the decline occurring between 1967 and 1968 (Chart 1–3). While changes in the composition of the population also affected the poverty rate in the late 1960s, the decline was disappointing in light of the large increase in antipoverty funding.

Chart 1-3

Poverty Rate, All Persons



Source: Department of Commerce.

THE SEVENTIES: INSTABILITY, INFLATION, AND STAGNATION

After more than 25 years of stability, growth, and low inflation following World War II, the U.S. economy ran into trouble in the late 1960s and 1970s. A series of shocks to the economy combined with destabilizing monetary and fiscal policies produced a period that has been characterized as stagflation: high, variable inflation and rising unemployment. Aggravating these problems were disincentives to private investment introduced by the tax system, increased regulation, and reductions in government investment.

The 1970s stand in stark contrast to the 1950s and 1960s. Between 1973 and 1981 the rate of inflation was nearly three times as high as between 1948 and 1973, averaging more than 8 percent and reaching 9.7 percent (four quarter change) at the business cycle peak in 1981. Until 1981 each successive peak exhibited higher inflation and higher unemployment. Higher inflation was not buying lower unemployment, and the unemployment rate reached 7.4 percent at the business cycle peak in 1981 (Chart 1–4). Productivity growth plunged to a scant 0.6 percent per year between 1973 and 1981. Manufacturing's productivity performance was better than overall productivity, but it, too, slowed to a 1.3 percent annual rate of increase.

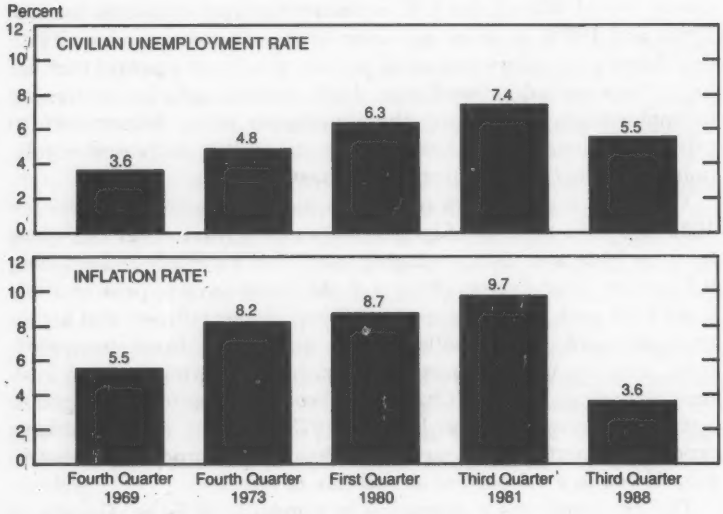
The net result was a stagnation in standards of living. Growth in real GNP per capita was cut to one-half the 1948–73 rate, to a 1.1 percent annual rate between 1973 and 1981. Real median family income showed no growth, despite the growth in the proportion of two-earner families. A real differential began to show up in the 1970s, however, with the lowest groups in the distribution of income faring the worst. The poverty rate increased from 11.1 in 1973 to 14.0 in 1981.

DESTABILIZING MACROECONOMIC POLICIES

The United States entered the 1970s with rising inflation, a recession, and the collapse of the exchange-rate system. These problems, inherited from the 1960s, were compounded by two supply-related changes in the 1970s: sharp increases in energy prices and rapid labor force growth that injected large numbers of inexperienced workers into labor markets.

Chart 1-4

Unemployment Rate and Inflation Rate at Business Cycle Peaks, and Current Rates



¹Four-quarter percent change in GNP implicit price deflator.
Note.—Data are seasonally adjusted.
Business cycle peaks as determined by National Bureau of Economic Research.
Sources: Department of Commerce and Department of Labor, except as noted.

Exacerbating the effects of these exogenous factors were short-term policy responses. Prominent among these policy responses was the mismanagement of mounting inflation and the energy shocks. Instead of pursuing the medium-term goal of gradually reducing the growth rate of the money supply from the rapid pace of the 1960s, policymakers focused on successive short-term responses to the inflation and unemployment problems.

Price Controls: In 1971 wage and price controls were introduced, beginning with a 90-day freeze on prices and progressing to weaker controls in later phases of the program. The freeze at first slowed the measured rate of inflation by suppressing the rise, but in doing so it may have encouraged a resumption of monetary stimulus. Between 1971 and 1972, M2 increased at an annual rate of 13 percent. The freeze also distorted relative prices and reduced efficiency.

When the oil "crisis" hit in 1973, the Nixon Administration imposed controls on the price of energy production. The result, howev-

er, was distortions in relative prices and gas lines. Perhaps most damaging was policymakers' failure to recognize that the oil price rise was a one-time increase in the price level, or, depending on monetary policy, a change in relative prices, not a permanent change in inflation. Consequently, policymakers did not confront the fundamental causes of the underlying increase in inflation—rapid monetary growth. Although periodic swings in money growth answered swings in inflation, average money growth remained high.

Discretionary Policies: The attempt to use fiscal and monetary policies to smooth the economy produced the pattern of successively higher peaks in inflation at each business cycle peak (Chart 1–4). Higher inflation rates did not produce the reduction in unemployment rates suggested by the Phillips curve tradeoff. (For a discussion of the Phillips curve tradeoff between inflation and unemployment, see Chapter 2 of the 1988 *Economic Report of the President*.) The stop-go pattern had already shown up in the 1960s. In the mid-1960s, there was an acceleration of monetary stimulus, accompanied by fiscal stimulus in the form of the 1964 tax cut, and Vietnam war and Great Society spending. In the latter part of the 1960s, rising inflation led to the 1968 tax surcharge and to the monetary contraction in 1969 that preceded the 1969–70 recession. This pattern became more destabilizing and more volatile in the 1970s, with government responding to short-term fluctuations, first stepping on the accelerator to stimulate the economy and reduce unemployment and later stepping on the brakes to slow inflation.

Information and Lags: Fine-tuning proved to be more harmful than helpful because of the inherent difficulties in forecasting business cycle turning points, the long and variable lags in policymaking, the lag between action and its effect on the economy, and the difficulty of distinguishing between permanent and transitory changes.

The first problem confronting discretionary policy was, and continues to be, information. Discerning trends in preliminary data is difficult. With hindsight, peaks and trends are easy to spot. Identifying trends as they occur is more difficult because there are large random components in the data, many changes in monthly data are not statistically significant, and initial data are often revised substantially. These difficulties and the time it takes to collect and disseminate the data make early recognition of trends even more difficult. For example, an analyst using business cycle rules for identifying significant trends in the leading index of economic indicators would not have been able to identify in advance either the 1974–75 or the 1981–82 downturns, the two most severe downturns of the postwar period.

These problems, in obtaining reliable information promptly, present large difficulties when combined with lags in policy. Fiscal

policy takes time to enact, and after enactment often requires 3 to 6 months to take effect. Fiscal policies reach their peak effect on average between 9 and 18 months, with wide variation around the average reflecting in part variations in anticipations and information about the change. Monetary policy has a short administrative lag, but its effect is usually not felt for between 6 to 9 months, and its peak effect may occur as many as 36 months later. Further complicating discretionary policy is the variability of these lags, with the length of the lag partly depending on anticipations—whether the action will be taken and the form it will take. Greater certainty about the action tends to shorten the lag and more uncertainty tends to lengthen it.

Given these lags and the fact that the average postwar contraction lasts only 11 months, to be effective, discretionary policy requires accurate forecasts of turning points at least four quarters ahead. Unfortunately, the record in the 1970s and 1980s indicates that neither Federal Government nor private forecasters has been able to forecast on average whether the economy will be in boom or recession four quarters ahead. The errors in their forecast tend to be largest at turning points, and even on average the range of real GNP growth suggested by the forecasts' standard errors bracket a range from more than twice the mean rate of real GNP growth to negative real GNP growth.

Much of the error in these forecasts involves problems in estimating the course of policy. Some estimates indicate that as much as one-half of the error of forecasts relate to unexpected changes in monetary policy. Much of the rest of the error results from random shocks, such as changes in oil prices or in labor force and productivity, and random fluctuations in decisions of governments and private citizens at home and abroad.

Stop-Go in the 1970s: The record of the 1970s graphically illustrates the problem with lags and the destabilizing nature of discretionary policy. Including one-time energy price increases, during 1973 the measured rate of inflation nearly doubled. To reduce the underlying rate of inflation in 1973 and 1974, monetary growth had to be reduced, but the sharp spike in prices related to the transitory energy-related change in relative prices caused the monetary authorities to overreact. Instead of reducing gradually, they cut the growth in M2 by more than one-half, from 13.3 percent between 1971 and 1972 to 6.2 between 1973 and 1974. While the one-time oil price change had a role in the severity of the ensuing recession—by reducing real incomes—monetary policy accentuated the effect. The 1974–75 recession was the deepest downturn that had occurred to that point during the postwar period. Inflation dropped from 8.2 percent at the pre-recession peak to a low of 5.7 percent following the recession,

but unemployment climbed to 9.0 percent. Also, although part of the reduction was attributable to a fall in the underlying inflation rate, much of the drop was traceable to the absence of additional oil price increases.

The 1974–75 recession and higher unemployment prompted a tax cut in 1975 and accelerated monetary growth. The progress in reducing the underlying inflation rate that had been so expensively gained was lost. Between 1975 and 1977, M2 growth averaged 12.3 percent.

The Tax Reduction Act of 1975 was a one-time tax cut designed to stimulate aggregate demand and fight the recession. Unfortunately, it was passed in March 1975, which was the recession trough, and the tax cut probably had its initial effect well after the expansion had begun, and its peak effect at a point well into the expansion, when inflation pressures were already starting to build. The monetary expansion also began in early 1975, with its initial effect probably occurring even further into the expansion and its peak effect as late as 1978, when inflation was approaching 8 percent.

Later in the 1970s a large increase in oil prices combined with the inflationary stimulus of past monetary growth to produce rates of price increases of 7.3 percent in 1978 and 8.9 percent in 1979. The Federal Reserve again shifted policy. In 1978 it started to tighten monetary policy and by 1979 was committed to reduce inflation. A significant slowing in monetary stimulus began.

The periods of rapid monetary growth in the 1970s had a particularly strong effect because of continued increases in velocity (the ratio of nominal GNP to the money supply). Higher inflation and higher interest rates during the 1970s kept velocity rising. From 1973 to 1981 the velocity of M1 (a narrower definition of money than M2) increased from 5.3 to 7.2. The behavior of the velocity of M2 was influenced by Regulation Q, which fixed interest ceilings on commercial bank deposits, and was more cyclical, tracking changes in short-term interest rates, the opportunity cost of holding idle money balances. The velocity of M2 also rose, however, increasing from 1.6 in 1973 to a peak of nearly 1.8 in 1981.

THE PRODUCTIVITY SLOWDOWN

Many analyses of the productivity slowdown focus on three exogenous factors that affected the United States in the 1970s: rapid increases in energy prices, rapid labor force growth, and the shift in demand away from goods and toward services.

The Energy Shock: Because the first oil shock occurred in 1973 and coincided with the worldwide productivity slowdown and stagflation, it appeared to explain both phenomena. The increase in oil prices raised the price level and measured rate of inflation, lowered real

output, raised unemployment, and lowered real incomes. The rapid increase in energy prices also reduced the optimal use of the existing capital stock, which was designed for low energy prices. Resources that might otherwise have been devoted to producing and purchasing new laborsaving capital equipment and structures were diverted to purchasing new energy-saving equipment and structures.

Some studies in the 1970s attributed a significant share of the decline in productivity to the sharp increase in energy prices; more recent analysis suggests a smaller effect because energy did not constitute a large enough share of total production costs to cause a prolonged decline in productivity.

Although it does not completely explain continuing stagflation, the effect of the energy price increase in some energy-intensive sectors, particularly in manufacturing, may have been significant. Higher energy prices combined with other pressures to cause an even greater reduction in the optimal use of the capital stock in these sectors. Some authors have suggested that a gradual change in energy prices might not have had a significant effect on the productivity of the capital stock because of energy's small relative contribution to total costs, but that the large sudden increase in energy prices presented serious adjustment problems.

Higher energy prices may also have had a large indirect effect on the economy. To the extent that the sudden rise in energy prices helped to contribute to the stop-go policies of the 1970s, it may also have contributed significantly to the period's stagflation.

Rapid Labor Force Growth: The growth rate of the civilian labor force in the United States increased from 1.2 percent between 1948 and 1966, to 2.4 percent between 1966 and 1973, and increased further to 2.5 percent between 1973 and 1981. These increases resulted from the maturing baby-boom generation and increasing labor force participation by women. The acceleration in growth shifted the composition of the work force to younger and less experienced workers, which tended to slow productivity growth. In 1966, 39 percent of the labor force were under the age of 35. By 1973 younger workers accounted for 47 percent of employment, and by 1981 they peaked at 51 percent.

This rapid labor force growth also added to the need for an increased rate of capital formation. The increase in labor required an even larger increase in investment to maintain the existing ratio of capital to labor and output per unit of labor. Unfortunately, coinciding with the rise in labor force participation was a slowing of the rate of capital formation.

The increase in labor force growth may have begun to assert its effect in the mid-1960s, when productivity growth dropped from a

rate of 3.3 percent between 1948 and 1966 to 2.1 percent between 1966 and 1973. Between 1973 and 1981, however, productivity growth dropped sharply to a rate of 0.6 percent, even though labor force growth was not much faster during this period than between 1966 and 1973. A more important factor was probably the slowdown in capital accumulation, which contributed to the slowdown in the growth rate of the net capital stock per worker. The productivity literature also suggests a relatively small effect on productivity from rapid growth in the number of young workers between 1973 and 1981.

Shifts in the Composition of Demand: Throughout U.S. history shifts in the composition of demand have affected productivity and economic growth. Flexibility in labor markets allows resources to move into expanding sectors. In the past, increases in agricultural productivity freed resources from farming to be used in the expanding nonfarm sectors. The shift raised average productivity as resources left agriculture—a sector with a relatively low level of output per man-hour—to other sectors with higher output per man-hour.

During the 1970s manufacturing productivity increased, although at a slower rate than in the 1950s and 1960s, which allowed manufacturing's share of GNP to remain roughly constant despite an increase in the share of the labor force employed in the expanding services-producing sector. This shift facilitated the employment and training of a large number of young, inexperienced workers.

In contrast to the net boost that the shift out of agriculture gave to average productivity, the shift to service industries lowered measured productivity growth because the faster growing components of the service sector had lower measured levels of productivity. Estimates of the effect of the shift in the composition of output vary widely, but it may have reduced overall measured productivity growth by as much as one-fourth. It is difficult to assess the true effect because part of the difference in productivity across sectors may be the product of problems in measuring output and productivity in the service industries.

In addition to these three exogenous factors, two other factors affected the productivity slowdown that were subject to Federal Government control: inflation and regulation.

Inflation: One of the most important changes in the U.S. economy that accompanied the U.S. productivity slowdown was rising inflation. Although analysts have carried out a large number of studies on the productivity slowdown, they seldom discuss or measure the direct effects of inflation—particularly variable inflation—on productivity. Yet the rise and variability of inflation after 1973 clearly paralleled the productivity slowdown. The potential impact of inflation is especially

important because, as the past 8 years have demonstrated once again, inflation is clearly subject to Federal Government control through monetary policy. In contrast, rapid labor force growth and the energy crisis are largely beyond the reach of government policies.

The effect of inflation in the United States in the 1970s and early 1980s, however, was not just to redistribute income. Inflation was high and variable, rising from 4.4 percent during 1972 to 10.1 percent during 1974, dropping to 5.7 percent in 1976, and rising again to 8.9 percent by 1979. Within a structure of unindexed taxes and contracts, high and variable inflation had real effects and pulled down measured productivity in a number of ways.

Noise and Relative Prices: During the 1970s high and variable changes in the rate of inflation were accompanied by a significant increase in the variability of relative input prices, as measured by the producer price index for intermediate goods. Not only did relative prices change more frequently, but also relative price changes did not appear to be lasting. For many goods, adjusting prices costs something, and sellers adjust prices infrequently. The result may be that during a period of high and variable inflation, relative prices may for a time be more a function of the pattern of past changes than a reflection of current or future resource cost.

Relative price volatility was important because many price contracts were not indexed for inflation and because changes in resources used in production processes can be costly. When decisions are based on relative price changes that reflect statistical noise and random adjustments rather than on changes in real costs, these rigidities can cause significant inefficiencies in resource allocation and reduce measured output per unit of input.

Even without rigidities, volatility in relative prices imposes two other types of costs. The first is the cost to sellers of adjusting prices, while the second is the cost to buyers and managers of having to learn new information and integrate it into decisionmaking.

Managerial Efficiency: In addition to its effect on resource allocation in the choice of input combinations, inflation had another significant effect on managerial efficiency in the 1970s. Operating decisions about productivity had a smaller impact than inflation on reported profits and rates of return; and managers had an incentive to allocate more time to the latter and less to the former. With input prices and wages rising at 10 percent or more, managers could save more by buying early or trying to win a wage concession than by trying to improve productivity by a percentage point or two.

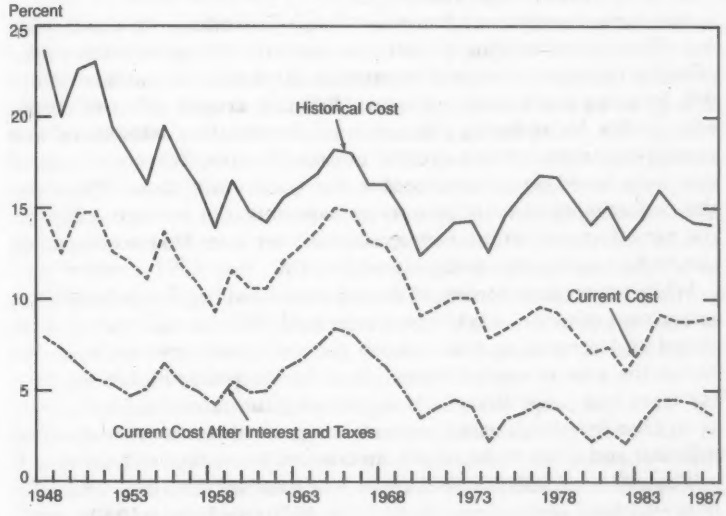
These labor and material pressures were reflected in the behavior of inventories. Expectations of rising prices and low real interest rates gave managers an incentive to carry more inventories, raising

the inventory input for a given level of output and raising inventory profits. In contrast to today's just-in-time inventory systems, in the 1970s inventory-to-sales ratios reached their highest postwar levels.

The relationship of inflation to incentives is graphically illustrated by its distorting effect on reported profits. Inventory profits came to account for a rising share of reported profits. Inflation also understated the replacement cost of capital assets, which further increased book profits. Reinforcing these effects on profits, inflation caused the value of a firm's capital assets to be understated. The result of all these effects was to cause accounting—or historical cost—rates of return reported to stockholders and upper management to diverge sharply from real rates of return, with nominal rates of return trending upward slightly while real rates trended down (Chart 1–5).

Chart 1-5

Alternative Rates of Return on Capital Investment



Source: Unpublished data from Department of Commerce.

In the 1960s real operating profits from production accounted for up to 82 percent of accounting rates of return for U.S. nonfinancial corporations; inventory profits and the understatement of capital costs and assets resulting from the effects of inflation-induced profits accounted for the other 18 percent. Rising inflation in the 1970s increased the importance of inflation, and by the early 1980s, inflation accounted for as much as 54 percent of accounting rates of return

and real operating profits from production accounted for only 46 percent. The effect of inflation on returns after taxes and interest payments was even more dramatic. By the early 1980s, inflation's share reached 72 percent of accounting rates of return after taxes and interest payments and real operating profits 28 percent.

In addition to the incentive and time problems related to inflation, managers had the added burden of burgeoning government regulations and of trying to forecast the effect of the stop-go economic policies. Under these uncertain conditions, at the margin, managers were likely to spend more of their time on purchasing and planning decisions—as well as on complying with new regulations—than on basic operating decisions. Training personnel, attending to plant maintenance, or working on improvements in work processes may have received less attention as a result of the increased demands resulting from inflation and regulation and the lower relative returns to time devoted to these activities.

Investment Incentives and Investment Trends: In addition to the distorting effect on accounting profits and rates of return, inflation raised effective tax rates on capital investment. Real after-tax rates of return fell, lowering investment incentives. Inflation eroded effective corporate profits by reducing the value of depreciation allowances and measured materials costs, thereby raising effective tax rates on capital that were based on nominal profits. Partly offsetting these effects was the deductibility of nominal interest payments. On average, however, the net effect was an increase in effective tax rates that accompanied the decline in real operating rates of return.

While uncertainty continues among economists as to how much the interaction of inflation and taxes increased effective tax rates and reduced real returns, and how much the rise in effective tax rates reduced the rate of capital formation, it is likely that higher effective tax rates had a significant role in reducing the rate of capital formation. One frequently cited estimate suggests that the interaction of inflation and taxes reduced net investment by as much as one-third.

The effect of inflation and taxes had another distorting effect on nonresidential investment. During the 1970s and early 1980s, inflation and the Tax Code gave large incentives to investment in residential housing while it lowered the net returns to investments in financial markets. Taxation of capital gains that reflect inflation rather than real increases in value also reduce incentives to save and invest. Partly as a result, housing values soared and stock values stagnated while the replacement cost of plant and equipment rose. As might be expected, lowering the stock market value of firms relative to the cost of new plant and equipment raised the firms' cost of capital and lowered the incentive to invest in new capital.

Slower capital formation lowered U.S. productivity in three ways: by failing to keep up with rapid labor force growth during this period, the growth rate of capital per worker slowed dramatically; by slowing down the rate of adoption of new technologies embodied in new plant and equipment, the growth rate of capital productivity was reduced; and the slowing of the rate of adoption of new technologies may have reduced the learning by doing that accompanies new investments and feeds back into the rate of technological change. (Science and technology are discussed in Chapter 6.)

Although considerable controversy surrounds the relative importance of the slowdown in capital formation, most studies have found that slower capital formation had a significant and substantial influence. The range of estimates is wide, with most of the estimates of slower capital formation ranging between 20 and 50 percent of the slowdown. And perhaps most important, in contrast to the rapid growth in labor force or the energy crises, government policies—either through their effect on taxes or inflation—have an important effect on incentives that influence the rate of capital formation.

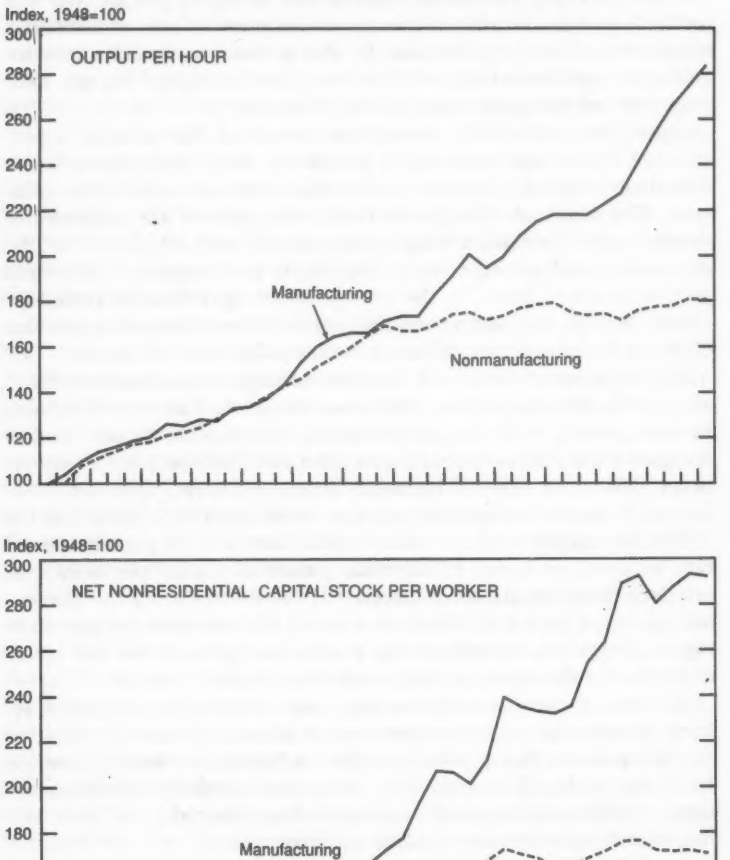
Although some slowing of the rate of capital formation occurred after 1966, the drop in the 1970s was dramatic. The rate of growth in the private real net nonresidential capital stock per worker dropped from 2.2 percent between 1966 and 1973 to 1.4 percent between 1973 and 1981. The trend across industries was not even. Capital formation in manufacturing showed significant growth in the 1970s. Net capital stock per hour worked rose at a 3.4 percent annual rate between 1973 and 1981, while growth in capital per worker in nonmanufacturing slowed between 1973 and 1981, to a 0.7 percent annual rate (Chart 1–6). Partly as a result of the continued growth in capital formation, manufacturing productivity growth did not suffer as much of a slowdown as did productivity in other sectors.

All these factors notwithstanding, one of the most important effects of inflation on private investment incentives was the result of stop-go policies that produced higher inflation and unemployment. Instability reduced incentives to investment, making entrepreneurs more cautious, more concerned about downside risks, and less willing to undertake new investments and projects.

Paralleling the decline in private capital formation was a continued decline in government capital formation as government direct transfers and insurance programs rose. After peaking at 4.1 percent of GNP in the mid-1960s, the ratio of government nonmilitary investment to GNP declined throughout the 1970s, falling to 2.1 percent by 1981. This decline in nonmilitary investment paralleled a decline in military investment, which allowed U.S. defense capability to run down.

Chart 1-6

Output per Hour and Capital Stock per Worker, Manufacturing and Nonmanufacturing



Sources: Output per hour, unpublished data from Department of Labor; capital stock per worker, Council of Economic Advisers, based on data from Department of Commerce.

Incentives to Entrepreneurial and Other Labor Effort: Just as businesses and investors experienced inflation-induced bracket creep, entrepreneurs and workers also saw bracket creep reduce their returns to extra effort. One-earner families of four with twice the median income—who were more likely to be entrepreneurs and professionals—saw their marginal tax rates increase from 28 to 43 percent, while their real income stagnated. Proprietors' income declined from 10.6 percent of personal income in 1973 to 7.6 percent in 1981.

Wage and salary workers also saw their marginal tax rates rise as their real incomes stagnated. Between 1973 and 1981 nominal median family income for a one-earner family of four increased 92 percent, while the family's real income was little changed and its marginal Federal income tax rates rose from 19 to 24 percent. The impact on married women and other secondary workers was particularly severe, as they faced declining real wages and high marginal tax rates on their labor effort.

Measurement Problems: One of the most difficult problems in measuring productivity is separating pure price changes from changes in product price that reflect changes in the characteristics or quality of a product. The difficulty of making this separation is increased when either prices change rapidly or technology changes rapidly. During the 1970s rapid increases in prices increased the complexity of measuring relative versus pure price changes. There was also the added difficulty of distinguishing permanent versus temporary price changes.

In constructing price indexes, producers are asked to estimate the cost of product improvements, and these costs are used to adjust the product's price index so as not to overstate pure price change. If the quality change is costless or the cost is difficult to identify, however, the price index will not capture the improvement and any price increase will be shown as a pure price increase rather than as an increase in output. This problem is especially acute in industries where there is no physical output and where changes in quality are hard to measure or even observe. Interestingly, the decline in productivity growth in nongoods-producing sectors, such as finance, insurance, and real estate, transportation services, and other services, was much more pronounced than in manufacturing.

Rapid and variable increases in input prices during the 1970s probably made the estimation of the cost of improvements more difficult than during the 1960s. As a result, some overestimation of inflation, which resulted in an underestimate of real output growth may have occurred during this period.

Added to the problem of separating relative from pure price changes was the expanding underground economy. Increasing tax-

ation of inflation gains through bracket creep gave extra stimulus to the underground economy. Higher effective tax rates may help to explain the productivity declines in construction and services where there are significant numbers of sole proprietorships and underreporting of receipts is most likely.

Understatement attributable to the underground economy is more likely to show up as an understatement of receipts and income data than as an understatement of employment. As a result, if the statistical agencies did not adequately adjust for increases in the understatement of noncorporate income during the 1970s, they may have permitted a downward bias to enter the productivity estimates.

Regulation and the Productivity Slowdown: In addition to its impact on management efficiency, regulation reduces productivity by increasing capital and labor inputs without an increase in measured output. For example, environmental health and safety regulations in certain industries required new capital equipment designed to reduce pollution and produce environmental and health benefits but not measured output. Studies of these added capital and labor costs to industry estimate that, although government regulations improved the environment, they reduced measured productivity by about 15 percent between 1973 and 1981.

As the costs of these regulations became evident, policymakers began to reconsider the costs and benefits of environmental, safety, and other regulations. Questions were raised about the impact of regulations on costs and productivity of even the oldest of regulated industries. Entry and pricing restrictions in these areas resulted in inefficiencies that raised prices and reduced the quality of services. In recognition of these costs beginning in the 1970s, deregulation began in air transportation, trucking, and railroads as well as in other areas. (Regulation is discussed in Chapter 5.)

SOCIAL PERFORMANCE

The failure to reduce poverty in the 1970s was a source of social frustration. Part of the poverty problem appeared to be related to the stop-go policies that affected all families. The poverty rate had reached an all-time low of 11.1 percent in 1973, but the 1974–75 recession raised the rate to 12.3 percent. Economic expansion and a reduction in inflation seemed to improve the poverty rate, but shortly thereafter inflation began to rise and the economy moved in 1980 into a mini-recession. The poverty rate rose from 11.4 percent in 1978 to 14.0 percent in 1981 (Chart 1–3).

Part of the poverty problem was probably related to measurement issues because the official poverty statistics are based on the consumer price index, which in the 1970s and early 1980s overstated

housing costs and inflation. The poverty statistics also exclude non-cash income, a growing component of means-tested benefits. The net effect of these factors was probably to overstate the rise in poverty that occurred between 1973 and 1981.

Another part of the poverty problem appears to have been related to diminishing returns to economic growth. During the 1950s and 1960s increases in median income were accompanied by large reductions in poverty. When median income was lower, a significant proportion of the population was near the poverty income level. As median income rose, a large number of persons were lifted from poverty. By the 1970s, however, the poverty threshold was located in the long flat tail of the lower end of the income distribution, and further shifts in the location of the distribution lifted fewer people from poverty.

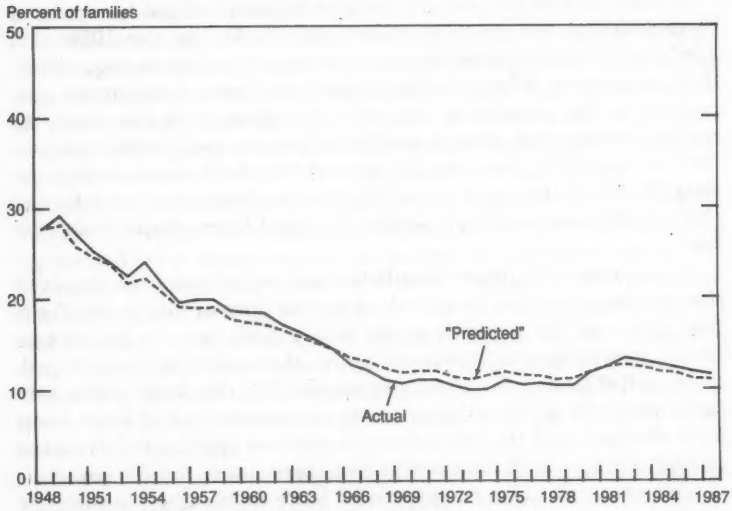
Interestingly, if a fixed distribution of income, such as the 1948 distribution, is used with growth in median income to "predict" the percentage of the population that would have been at low-income levels, it produces a "predicted path" that tracks the actual path quite well (Chart 1–7). Thus, despite the fact that large sums were being redistributed to reduce poverty, the distribution of income was little changed, and the low-income population appears to have been moving along a path that would have been predicted by economic conditions alone. The persistence of large numbers of low-income families and the rise in poverty rates may help to explain why at the time there was a nagging feeling that the effort to invest in people and "to give a hand, not a handout," was failing.

Real spending on public aid increased from $56.3 billion, measured in 1982 dollars, in 1973 to more than $87.1 billion in 1981. The programs did benefit some groups. Unrelated individuals and the elderly showed improvement and, despite the poor economic performance over this period, the poverty rate for unrelated individuals fell from 25.6 percent in 1973 to 23.4 percent in 1981 and for those over 65 from 16.3 percent to 15.3 percent.

For other groups a disturbing trend suggested that increased transfers were influencing behavior and fostering dependency. The proportion of births to unmarried women was rising and showed an alarming increase among the most disadvantaged groups. By 1981 more than one-half of all black births were to unmarried women, and for those aged 15 to 24 nearly 70 percent were to unmarried mothers. This development was particularly disturbing because families with the poorest economic outlook were increasing, suggesting that poverty was increasingly becoming a long-run condition for these families. The proportion of the poverty population accounted for by female-headed families grew dramatically, while those headed by a

Chart 1-7

Actual and "Predicted" Proportion of Families With Income Below $10,000 in 1987 Dollars



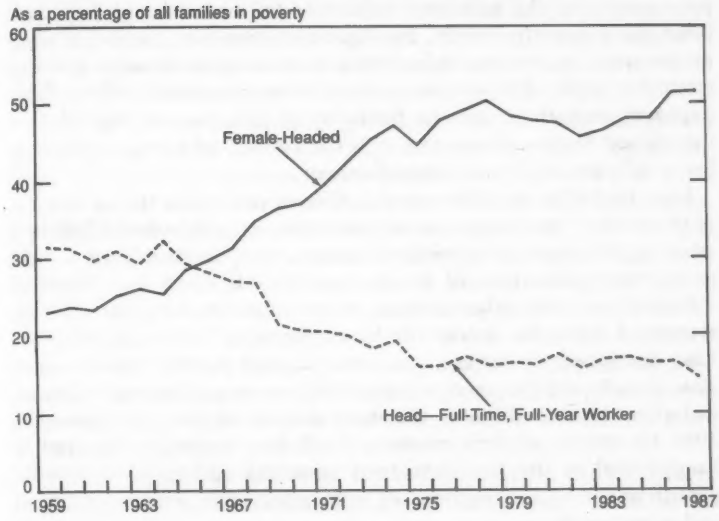
Note.—Consumer price index for urban consumers used as deflator.
Sources: Department of Commerce and Council of Economic Advisers.

full-time worker declined. The proportion of families in poverty headed by women rose from 23 percent in 1959 to 35 percent in 1968, and rose further to 48 percent by 1981, while those with a full-time, full-year worker as head of the household fell from 31 percent to 27 percent between 1959 and 1968 and to 18 percent by 1981 (Chart 1–8).

An increasing proportion of these families also was headed by women with little or no work experience. With child care responsibilities and expenses and no work experience, job prospects were poor for these women and labor force participation correspondingly low. In 1981 more than 50 percent of black and Hispanic female-headed households were in poverty. Among these poor households only 34 percent of the women worked and only 7 percent worked a full-time, year-round job.

Chart 1-8

Composition of Families in Poverty



Source: Department of Commerce.

THE EIGHTIES: LOWER INFLATION, IMPROVED INCENTIVES, AND IMPROVED PERFORMANCE

This Administration replaced the stop-go interventionist policies of the 1970s with a different view of the role of the Federal Government and of incentives. This view was based on lessons from U.S. economic history: the best performances have been recorded when government has provided stability and relied on the dynamism of the private sector.

The Administration emphasized that government often does best when it improves incentives and encourages private market solutions. The Administration sought to take government back to the basics, delivering the essential services and ensuring the stability that the private sector requires and allowing markets to work, often by providing a framework that gives incentives to private individuals to seek solutions. Desiring not to repeat the failures of short-term discretionary policy in the 1970s, the Administration abandoned discretionary fiscal policy. In its place the Administration has used fiscal policy as a tool for restoring incentives and efficiency, both in the private sector

and in the government and giving incentives for the private sector to plan for the future. The Administration has continued the drive for deregulation and has put forward new proposals to reduce rigidity. It has encouraged the monetary authorities to pursue the goal of non-inflationary growth. Finally, the Administration has continued work on lowering barriers to trade, trying to avoid protectionism and encouraging trade. The private markets have responded well to these improved incentives, and the flexibility of U.S. markets has allowed the United States—in contrast with the nations of Europe—to enjoy lower inflation and lower unemployment.

Like the 1970s the 1980s were a difficult period for the economies of the world. The move to slower monetary growth reduced inflation rates in the major industrialized nations, but it caused one of the most severe downturns of the postwar period. Partly as a result of inflexibility in their labor markets, many countries have not yet fully recovered from the downturn. Unemployment has remained high. Less developed countries have been plagued by the "debt crisis," slow growth, and the need to earn foreign currency. In many nations, including the United States, the sharp drop in oil prices beginning in 1985 hit sectors of their economy hard. Low aggregate demand in Europe and in the less developed countries and rapid export-led growth in the Pacific rim resulted in increased competition in import and export markets.

Despite these difficulties the U.S. economy recorded a dramatic reversal from the record of the 1970s. The 1981–82 recession, which was one of the most severe downturns of the U.S. postwar period, slowed growth in the early 1980s, but a vigorous recovery resulted in strong U.S. economic growth in the 1980s.

Since 1981 real GNP has risen at a 3.0 percent annual rate, a significant improvement over the 2.1 percent annual rate between 1973 and 1981. Real GNP per capita has risen at a 2.0 percent annual rate, compared with a 1.1 percent annual rate between 1973 and 1981, and is slightly above the 1.7 percent growth trend for the 1900s. This record compares favorably with the record for the other major industrialized nations during the 1980s.

Perhaps the most important characteristic of the 1980s is that during the past 8 years the cyclical pattern of higher inflation and interest rates has been broken. Inflation has been cut to nearly one-third of its 1980 rate, short-term interest rates are about one-half their peak 1981 levels, and long-term interest rates have declined substantially.

Largely because of labor market flexibility and improved incentives, lower inflation in the United States did not result in higher unemployment, and strong gains in employment and reductions in un-

employment followed the 1981–82 recession. Nonfarm jobs have increased by nearly 19 million since the recession trough of November 1982, for a net total of 16 million jobs since July 1981. Civilian unemployment has been cut by one-half, from 10.8 to 5.4 percent, with gains for all major demographic groups. This employment record is in sharp contrast to that in Western Europe where unemployment in 1987 was 10.7 percent, just below the postwar record high.

Although overall productivity growth has not achieved the growth seen between 1948 and 1973, improvement has been significant. Since 1981 private business sector productivity has grown at a 1.7 percent annual rate, more than double the 1973–81 rate. Manufacturing productivity has grown at a 4.1 percent rate since 1981, roughly one and one-half times the postwar average and more than three times the rate of 1973–81. Manufacturing remains strong; the United States is not deindustrializing. Manufacturing production is up 43 percent during this expansion, and 29 percent since the mid-1981 peak. Manufacturing's share of total output, around 22 percent, is essentially the same as its peak levels during the past 25 years. Strong productivity growth has allowed manufacturing to maintain its share of total output despite a declining employment share.

The two nagging problems for the U.S. economy in the 1980s were the budget and trade deficits. The growth in the trade deficit in the 1980s reflected several interrelated developments, including the strength of the U.S. economy and U.S. domestic demand relative to other countries, the debt crisis in less developed countries, the attractiveness of investment in the United States, and the high value of the dollar. Since 1985 the dollar has come down in value and U.S. domestic demand growth has slowed while other countries' domestic demand has accelerated. The improvement in the trade balance has been substantial as both the real and nominal trade deficit have fallen sharply from their peaks in 1986 and 1987, respectively. (The trade deficit and other trade issues are discussed in Chapters 3 and 4.)

The Federal budget deficit is a more serious problem and, although the current U.S. debt burden relative to GNP is comparable with the burden in the 1950s and early 1960s and to that of many of the other G-7 summit nations, it is still large. The increase in the deficit in the 1980s was largely the result of spending increases rather than tax cuts. Tax changes in the 1980s brought Federal taxes as a share of GNP close to its historical average, while spending continued its upward trend. Real progress has been made in reducing spending and the deficit since fiscal 1985, and the deficit as a share of GNP has declined from 5.3 to 3.2 percent of GNP; however, Federal dissaving continues to exacerbate the U.S. savings investment

imbalance and continued progress on reducing the deficit is important. (The budget deficit is discussed in Chapter 2.)

SOURCES OF THE IMPROVEMENT IN OUTPUT, INFLATION, AND PRODUCTIVITY PERFORMANCE

Increased Stability in Macroeconomic Policy: In contrast with the use of spending and taxes in attempts to control aggregate demand in the 1970s, in the 1980s the focus has been on longer term issues concerning the appropriate sphere of government action. Examples of issues that were addressed on the spending side were the mix of government spending between Federal, State, and local levels and the appropriate role of transfer programs. On the tax side, the issues concerned the effects of bracket creep and the effect of taxes on incentives.

Beginning in 1979 the Federal Reserve undertook to control one measure of the quantity of reserves rather than a short-term interest rate. This task was not easy, however, in part due to disinflation and changes in financial markets and in part due to the Federal Reserve's control procedures, particularly the use of lagged reserve accounting that has since been modified and depository institution borrowing from the Federal Reserve discount window.

Deregulation, the creation of new deposit instruments, and the general increase in the pace of financial innovation caused many changes in financial markets. Significant shifts occurred across different deposit instruments, and the management of monetary policy became more difficult.

Despite these problems, between the late 1970s and 1980, M2 growth fell from a high of 13.7 to around 8.0 percent, with an average growth of 8.5 percent since 1978. This decline in monetary growth was reinforced by a decline in velocity. After peaking at 1.7 in 1981, M2 velocity fell at an average of 1.4 percent a year between 1981 and 1987.

The shift to slower money growth was not painless and the 1981–82 recession was the second most severe recession of the postwar period, perhaps partly because the Federal Reserve's past behavior encouraged the expectation that monetary ease and higher inflation would follow soon after monetary restriction. Despite the difficulties, slower monetary growth and less volatility paid large rewards. The rate of inflation fell from 9.7 percent in 1981 to the 3.5 percent range, and unlike periods in the past, it has stayed in that range. Contrary to the fears of many, it will stay in that range and gradually drift down if the monetary authorities remain committed to reducing the rate of inflation to achieve price stability. Monetary policy will contribute to stable growth if the monetary authorities focus on the

medium-term prospects, moving toward the goal of noninflationary growth and avoiding the past errors of overreacting to short-term shocks to the economy.

Investment Incentives: Three major factors have operated on investment incentives since 1981: tax reform, lower inflation, and increased stability in the macroeconomic outlook.

Tax Policy: The Economic Recovery Tax Act of 1981 (ERTA) arose out of concern for the effect of inflation on incentives. It was designed to address the eroding effect of bracket creep on incentives to produce, save, and invest. On the personal tax side, lower marginal tax rates, lower capital gains tax rates, and indexation removed many of the effects of bracket creep and inflation on incentives to save and invest. As it turned out, the effect on aggregate saving was more than offset by a 26 percent increase in household net worth between 1981 and 1988 and high consumption expenditures by baby-boomers who were at the peak of their spending for consumer durables, child care, and education. Although these are investment expenditures that yield returns in later years, they are the types of saving and investment that are excluded from the definitions used by national income accountants, and therefore reduce recorded saving and investment.

On the business tax side, ERTA accelerated depreciation allowances, increased the investment tax credit for certain assets, and improved other business tax incentives. Changes in the tax law and lower inflation resulted in effective tax rates for some assets that were low and for some types of equipment were negative. Some investment incentives were reduced under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), but the net effect was that effective tax rates were significantly reduced by ERTA, even after adjustments by TEFRA. The net result was to increase investment relative to GNP. By lowering marginal personal tax rates and capital gains rates, ERTA and TEFRA also improved the investment returns for entrepreneurs. One estimate suggests that ERTA and TEFRA raised investment by at least 20 percent between 1982 and 1984, with a smaller net effect between 1985 and 1987. The two acts also reduced the differences in effective tax rates across assets and industries. Most estimates indicate that ERTA and TEFRA improved resource allocation and the efficiency of the capital stock.

The Tax Reform Act of 1986 (TRA) was a comprehensive reform directed toward further reductions in marginal tax rates, reducing distortions, and broadening the tax base. The act substantially evens the cost of capital across assets. Overall the reduction in marginal tax rates and removal of many tax preferences will help to ensure that investment and financial decisions are based on economic rather than tax-motivated grounds.

The long-term effect of the TRA on capital efficiency is expected to be significant. The act did increase the effective tax rate on capital at a given inflation rate, but, relative to the early 1980s, this effect was more than offset by lower inflation.

Lower Inflation: Lower inflation had several effects on investment incentives. It reduced the variability of relative prices, allowing decisionmakers to more accurately anticipate future relative prices, thereby allowing them to allocate resources more efficiently, especially those involving fixed dollar commitments for the future. The variance in relative prices for non-energy goods, as measured by the producer price index, dropped 39 percent between 1973–81 and 1981–87.

With relative prices more accurately reflecting future resource costs, investment decisionmaking was improved. Costly investments in machinery and equipment that in the 1970s were made inefficient by subsequent and unexpected changes in relative prices were avoided. The reduction in volatility lengthened the expected useful lives of assets and enhanced decisionmakers' incentives to concentrate on long-run investment planning rather than short-run strategies.

Lower inflation in conjunction with reduced regulation also gave managers the incentive to concentrate on basic management decisions rather than on purchasing and paperwork responsibilities. The reduction in inflation sharply reduced inventory profits and brought book value depreciation closer to real replacement cost depreciation. Lower inflation brought asset values and depreciation in line with replacement cost slowly, through new investments and through the depreciation and scrapping of the old capital stock. Nonetheless, by 1987 real operating profits accounted for 64 percent of accounting rates of return and the inflation share fell to 36 percent, versus 46 and 54 percent, respectively, in the early 1980s.

Similarly, lower inflation significantly reduced effective tax rates on capital investment. For new investments, low expected inflation caused book value depreciation to be closer to replacement cost depreciation, and inventory costs to be closer to replacement cost. As a result, the inflation tax on new investments was significantly reduced. Although there is considerable controversy regarding the effect of inflation on effective tax rates, according to one model, the reduction of inflation from 13.5 to 4.0 percent would have reduced the effective tax on new capital investments by one-third, even without any change in tax laws. Also with inflation in the 4 percent range, despite increases in effective tax rates as a result of TRA, the effective tax rate on new plant and equipment investments in 1988, at 41 percent, is still 10 percentage points lower than in 1980. Reducing inflation

and achieving price stability, therefore, are as important as tax laws in keeping effective tax rates from rising.

Business Confidence: One of the more important factors explaining the improvement in U.S. growth and productivity may be the increase in stability that occurred during this expansion. Reduced volatility of inflation and interest rates since the early 1980s and the absence of a contraction for 6 years has significantly improved business confidence, raising investment.

These improvements in stability and business confidence are important because most studies of the determinants of investment have found sales expectations to be more important than tax or relative price effects in determining investment spending.

Trends in Investment: In response to the improved outlook and heightened investment incentives, real nonresidential investment spending has done well in the 1980s. Investment dropped during the 1981–82 recession, but between 1981 and 1987 it averaged 11.8 percent of GNP, which is 1 percentage point above the postwar average. Despite this increase in gross investment, the net real capital stock per worker grew at only a 0.5 percent annual rate between 1981 and 1987. This difference in rates of capital accumulation reflects the fact that, while the gross investment share of GNP has been increasing, measures of net investment—gross investment less estimated depreciation—have been falling (Chart 1–9).

In terms of its effect on productivity, this trend in net investment and capital per worker has been offset by increases in the efficiency of capital, particularly in manufacturing. Since 1981 real output per unit of capital has risen 15 percent, or 2.3 percent a year.

Despite the improvement in capital productivity, some observers consider this trend in net investment particularly disturbing because standard national accounting measures indicate that U.S. investment as a share of GNP is smaller than that of other nations. Also, the United States spends a bigger share of investment on consumer durables and housing than many other nations. However, properly measured aggregate U.S. investment is comparable with that of most other industrialized nations of the world. Concerns about the low rate of aggregate saving and investment in the United States are exaggerated by national income and product accounts accounting conventions. If all expenditures that yield future income or services are counted as investment—including consumer durables, education, research and development, and military capital—then U.S. investment and saving as a share of GNP roughly equal those of most major industrialized nations of the world. The U.S. saving and investment shares on this basis are still significantly lower than Japan's, but because per capita income is higher than in Japan, investment per

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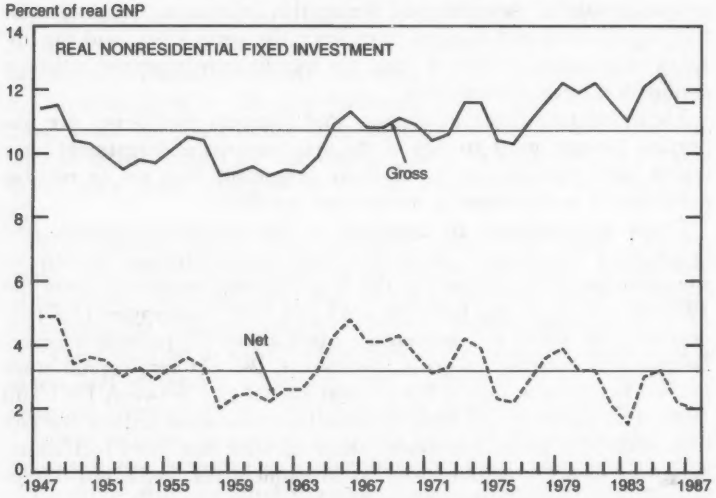
Chart 1-9

Gross and Net Investment Shares of GNP



Source: Department of Commerce.

capita in the United States is not significantly lower than Japan's when investment is measured more comprehensively than in the national income and product accounts.

The composition of U.S. investment and the slower U.S. rates of investment in plant and equipment relative to other countries result partly from the high levels of U.S. nonresidential private capital relative to other nations in the postwar era. The United States could afford to invest more in consumer durables because of its high ratios of capital to labor and associated high levels of GNP per capita. Japan and the other industrialized nations, on the other hand, had powerful incentives to invest and rebuild their capital stocks. As they approach U.S. levels, however, their investment paths may more closely resemble the U.S. path. In the pre-war era the United States had high investment rates relative to the rest of the world.

The U.S. investment pattern, however, may also stem from the bias in the Tax Code toward investments in housing and consumer durables. Also, higher levels of government infrastructure in the United States than in other countries allowed government investment to slip in the 1970s and 1980s. Now that other countries have closed most

of the gap and the United States is running a persistent trade and saving-investment deficit, it may be time to take steps to reallocate the investment mix and raise the level of U.S. nonresidential business investment or accept a lower rate of growth in the standard of living than in competing countries.

Accompanying the high levels of investment in residential structures and consumer durables is the declining trend in net nonresidential fixed investment (Chart 1–9). While gross nonresidential investment as a share of GNP has risen in the 1980s relative to the 1970s, net nonresidential fixed investment has declined as a share of GNP. These divergent trends result partly from tax incentives and may also be examples of problems in measuring depreciation.

The reason for the divergence between the trends in gross and net investment as a share of GNP is a shift in the mix of assets. Investment has shifted toward shorter lived assets, and the measured rate of depreciation on the capital stock has increased. The implication is that either the mix of investment must change or gross investment must increase even faster if the growth rate of net investment is to rise.

Technological change and a Tax Code that favored investment in equipment over structures has caused private nonresidential investment to shift away from long-lived structures toward shorter lived equipment. In 1960, 48 percent of investment was in structures and 52 percent in equipment; by 1987 these proportions were 28 and 72 percent, respectively. The shift to equipment was amplified by a shift within equipment toward shorter lived computers and transportation equipment.

The Tax Reform Act of 1986 did much to even effective tax rates between equipment and structures. However, tax reform raised effective corporate tax rates on business investment and removed the preferential treatment of business capital gains while retaining much of the advantage of investment in housing and consumer durables. Residential housing receives preferential treatment, because imputed returns are not taxed, interest and property tax payments are generally tax deductible, capital gains can be rolled over into a residence of equal or greater value, and, with the one-time exclusion of $125,000 in capital gains from the sale of a principal residence for those over age 55, the bulk of capital gains on residential housing is never taxed. The Tax Reform Act of 1986 phased out the deductibility of interest payments on consumer durables, but a revision on the use of home-equity loans in 1987 opened the possibility for homeowners to use deductible home-equity loans to finance consumer durables. Under current law, deductibility is no longer limited to home improvements or educational and medical expenses.

Although a clear shift has appeared in the mix of capital and some of the bias toward short-lived investment has been reduced, at least part of the trend in net investment may be related to problems in measuring depreciation. The problems are so severe that many researchers use averages of net and gross investment to approximate the productive potential of capital stocks. Gross investment may be more relevant than net investment in analyzing productivity because replacement investment embodies the latest technologies. If an average of the two measures were used to measure investment share, no clear trend would be visible in its share during the 1980s.

Unfortunately, not much solid information is available on service lives for different types of capital assets, and much of the data available from the Department of the Treasury seems to embody a bias toward shorter service lives during the postwar period that does not appear to be related to technological change.

Equally important to the size of the net capital stock and net investment are depreciation and retirement patterns. Once again solid empirical data on this dimension of capital are lacking. The official Department of Commerce capital stock estimates are based on straight-line depreciation and a pattern of discards that is similar to a normal distribution. Straight-line depreciation is generally not consistent with most independent estimates of economic depreciation, however, and little empirical information is available on the distribution of discards around the estimates of average service life. As a result, the Department of Commerce produces an alternative capital stock series that uses a different decay function, with slower depreciation in the early years and faster depreciation in the later years of an asset's service life. This alternative method raises the 1987 value of the U.S. net capital stock for nonresidential capital by 29 percent, to $4.8 trillion. This alternative series also shows a slowing of net investment since the mid-1960s, although the relative growth rate differs, with somewhat slower growth before 1973, from the straight-line measure and somewhat faster growth afterward.

Comparisons of foreign and U.S. net investment are even more difficult. According to official estimates of depreciation lives used to produce national capital stock estimates, apparently similar kinds of assets have significantly different durability across developed countries. For example, official estimates indicate that machinery and equipment in the Japanese chemical industry last only 8 years versus 31 years in the United Kingdom.

Increased Competitiveness: Increasing foreign competition and labor market accommodation were also factors stimulating increases in output and productivity. Imports' share of U.S. markets in manufacturing increased from 8.3 percent in 1981 to 12.9 percent in 1986.

Inefficient producers left the market. The remaining producers closed plants, cut back on excess labor, invested in higher technology equipment, and improved inventory control and other management procedures.

The impact was particularly large in durable goods manufacturing, where imports' share of the U.S. market rose from 10.7 percent in 1981 to 16.8 percent in 1986. Durable goods productivity rose over 5 percent per year between 1981 and 1987, compared with 1.0 percent between 1973 and 1981. In nondurable goods, where the imports' share was lower and growing more slowly—increasing from 5.9 to 8.0 percent—productivity growth was more modest.

Shifts in the Composition of Labor: Manufacturing benefited from improvements in the quality and quantity of labor. Increasing competitive pressure forced U.S. industries to conserve on inventories, labor, and capital. The labor force in manufacturing aged and gained experience. This labor force also benefited from the fact that manufacturing had kept up investment during the 1970s and, although part of the investment was diverted to energy-saving capital and regulation, some embodied new technologies. As a result capital-labor ratios in manufacturing in 1987 were 45 percent higher than in 1973 and the effective capital-labor ratio would probably show an even larger increase.

Work Effort and Marginal Tax Rates: Between 1981 and 1988 the top statutory personal Federal income tax rate was reduced from 70 to 28 percent, while the top corporate rate was reduced from 46 to 34 percent. Marginal tax rates have been cut across the board. For example, a one-earner family of four earning twice the median income has seen its marginal Federal income tax rate reduced from 43 to 28 percent. A one-earner family of four earning the median income has seen its marginal tax rate reduced from 24 to 15 percent. Two-earner couples have seen even larger cuts in their marginal tax rates.

The effect of cutting tax rates on incentives appears to have been large. Although other factors clearly had a hand, an explosion of small business growth has occurred during this economic expansion. Small businesses have accounted for a disproportionate share of overall job growth. Although they accounted for only about 50 percent of employment, between 1982 and 1986 they accounted for 64 percent of net employment growth. Proprietors' income, which had been declining as a share of personal income throughout the postwar period, has turned around, rising from 7.4 to 8.3 percent of personal income. The share of taxes paid by the top 5 percent of taxpayers increased from 34.9 percent in 1981 to 44.3 percent in 1986.

Regulation: Another boost to overall productivity has come from the deregulatory process that began in the late 1970s. In transportation,

regulation has changed dramatically. The railroad, bus, trucking, and airline industries have all become more efficient as a result. Problems in measuring productivity gains in service industries seem to have obscured the gains in these industries. Because all sectors of the economy, including manufacturing, depend on the transportation system, gains in this sector help the overall economy. Lower rates and improved services have permitted U.S. industry to reduce inventory costs and adopt more efficient production techniques. Overall savings are estimated to be between $60 billion and $90 billion per year.

Sector-Specific Productivity Improvements: Manufacturing has been the leader in improving U.S. productivity growth. Manufacturing more than accounted for the improvement in total nonfarm productivity. The increase in manufacturing productivity stems from the reduction in inflation and instability, improvements in incentives, increases in competition, the aging of the labor force, high capital-labor ratios, and the flexibility of U.S. labor markets.

There is some indication that manufacturing output and productivity have been overstated in the 1970s and the 1980s. Some observers have pointed to this overstatement as evidence of deindustrialization, noting that manufacturing's share of GNP may be overstated by 1 or 2 percentage points. Even if manufacturing's share were reduced from 22 to 20 percentage points, this lower figure is well within the range of normal variation in its share and just 1 percentage point below manufacturing's postwar average GNP share.

A review of the data also suggests that whatever revisions are made to manufacturing productivity data will not revise away the sharp improvement in manufacturing productivity since 1981. A large share of the problem—to the extent there is one—is said to arise from an adjustment that lowered 1972 manufacturing output and raised its growth rate for 1972–87. However, the largest impact of the adjustment on output growth occurred between 1972 and 1979, with little impact on manufacturing productivity growth after 1979. Thus removal of the adjustment would make the recovery of manufacturing productivity growth after 1981 look even stronger relative to the 1973–81 period. In addition, regardless of what revisions are finally made to the 1973–81 period, manufacturing productivity growth of 4.1 percent in the 1981–87 period is a significant increase relative to the 2.8 percent growth in the 1948–73 period. Finally, even if the level of manufacturing productivity is lowered somewhat, because manufacturing productivity is constructed separately from overall activity, the revision may simply lower manufacturing productivity and raise nonmanufacturing productivity, leaving overall productivity growth unchanged.

More fundamental problems exist with measured productivity growth in nonmanufacturing industries than a possible mismeasurement between manufacturing and nonmanufacturing. Although the nonmanufacturing sector has been growing rapidly, contributing heavily to real GNP growth and increased employment, its productivity record in the 1980s has been weak. The weakness is something of a puzzle. As can be seen in Table 1–3, not all the nonmanufacturing industries have done poorly. The average growth rate in output per hour in farming, mining, communication, utilities, and trade for the past 6 years has been 3.8 percent. However, this growth has been offset by slow measured growth in transportation and services and negative growth in construction, the finance sector, and government enterprises.

TABLE 1–3.—*Growth in Value Added per Hour Paid, 1948–87*

[Average annual percent change, except as noted]

Sector	1987 output share (percent)[1]	1948 to 1973	1973 to 1981	1981 to 1987
Goods-producing:				
Farm	2.4	4.6	5.2	5.2
Mining	3.8	4.0	−6.8	5.2
Construction	5.7	.6	−2.7	−.6
Manufacturing	27.1	2.8	1.3	4.1
Durable manufacturing	17.0	2.4	1.1	5.2
Nondurable manufacturing	10.2	3.4	1.7	2.5
Service-producing:				
Transportation	4.4	2.3	−.2	.7
Communication	3.5	5.2	4.3	5.3
Utilities	3.4	5.9	.4	1.4
Trade	21.3	2.7	.5	2.4
Wholesale	9.4	3.1	−.1	3.5
Retail	11.9	2.4	.5	1.8
Finance, insurance, and real estate	10.7	1.4	−.4	−.7
Services	16.1	2.2	.3	.4
Government enterprises	1.5	−.1	1.2	−.9
BUSINESS	100.0	2.9	.6	1.6

[1] Detail does not add to total because of rounding.

Source: Unpublished data from Department of Labor (Bureau of Labor Statistics).

Part of the explanation for this divergent performance in productivity may be that these slow and negative growth sectors accounted for more than 65 percent of the job growth since 1981. As a result, they have added a disproportionate share of young and inexperienced workers to their labor force. Capital-labor ratios have also shown little growth in these industries, perhaps because of a substitution of labor for capital.

Measurement problems may also continue to exist in these rapidly expanding areas. In the services and finance sector—which accounted for more than 67 percent of total nonfarm employment growth—

output is extremely difficult to measure. The rapid rates of innovation in these industries make it difficult to identify quality changes or to separate pure price changes from price changes arising from changes in product characteristics.

Slow growth in measured productivity in transportation is related to measurement problems in the airline industry. Deregulation has produced lower fares and increased passenger miles per employee. Most estimates indicate large net savings, yet productivity as measured by value added per hour worked appears to have fallen. This clear contradiction of the evidence in airlines may be the result of the problem of developing consistent deflators during a period when the fare structure is rapidly changing. Today 90 percent of fares are sold at discounts from full fare; in 1976, 85 percent of travelers paid the listed full-fare price.

Construction offers another example of the problems of measurement. Value added per worker in construction stands at the same level as in 1948. This poor productivity performance seems difficult to believe given the development of prehung factory-made doors and windows, factory-made trusses, aluminum siding, and more sophisticated construction equipment. Understatement of construction activity and inadequate price data have always posed a problem, and it may be worsening.

International Productivity and Growth: A major question that arises in looking at the productivity and growth experience in the 1980s is why many of the other industrialized nations have not seen the recovery in productivity growth and output that the United States has witnessed. Part of the reason probably lies in their lack of labor market flexibility. Employment, especially in Europe, has not recovered from the contraction of the early 1980s. Unemployment among the Organization for Economic Cooperation and Development (OECD) nations of Europe is above 10 percent, and mandated benefits and high marginal taxes make employers reluctant to innovate and expand their businesses.

Strong growth of output and employment require flexible labor markets that are free from rigidities and distortions. The flexibility of U.S. labor markets contributed to the strong performance of the U.S. economy. In many countries, especially in Europe, the flexibility of labor markets has been reduced by restrictive work practices, excessive nonwage labor costs, rigid work rules, generous unemployment insurance benefits, and burdensome job security arrangements. Such distortions, along with high marginal tax rates in these countries, discourage job growth by driving a wedge between wages paid and wages received while reducing the costs of remaining unemployed and reducing labor mobility.

Most governments, as expressed in recent economic summits and the OECD, now accept the importance of market flexibility and structural adjustment. This relatively new development is attributable to the positive experience of the United States in the 1980s.

Market incentives form the basis for economic decisionmaking in the United States. For example, wage negotiations between workers and firms are voluntary, free of government intervention, and free to take into account special regional and industrial factors. The imposition of government-mandated benefits raises the cost of labor, thereby slowing the growth of employment and raising unemployment. As a result the young, inexperienced, and lower productivity workers, whom mandated benefits are often intended to help, are among those who are hurt.

Flexible markets ensure adjustment to changing economic circumstances. Flexible markets also promote dynamic adjustment. Admittedly adjustment can be painful for some workers and for some firms. In the United States, for example, during the 1980s, the adjustment of workers and manufacturing firms in many cases was especially difficult and costly. Some workers were displaced; the real earnings of others declined, and company profits fell. These difficulties are best dealt with by firms and workers, however, not the government. Government intervention slows the adjustment process and often does not help workers in any real sense, but simply shifts the burden elsewhere.

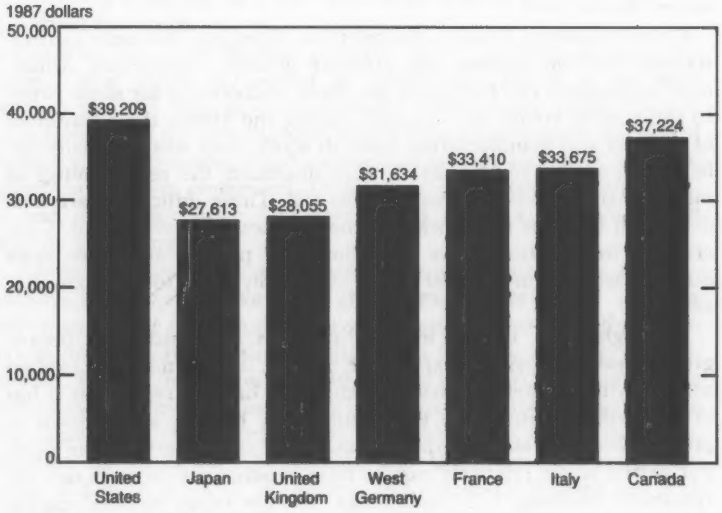
Although labor market inflexibility helps to explain the poorer growth and employment experience abroad, it does not help explain why growth in other countries' productivity has not revived as it has in the United States. The explanation may be that a slowdown in growth was inevitable for these countries. During most of the postwar period it was relatively easy to raise productivity through new investments adapting U.S. technology. As the other nations' capital stocks and standards of living have moved closer to those of the United States, and as the U.S. technological advantage was reduced, the other nations' productivity growth has approached the U.S. rate. As the British and French found with the Concorde and the Japanese with Beta videocassette recorders, innovation and new products are riskier, slower, and more expensive than imitation.

Thus while other nations will continue to benefit from the postwar free trade and stabilization programs of the United States, their growth rates and levels of output will likely converge toward U.S. rates and levels. Still, the United States continues to have the highest standard of living of the major industrialized nations of the world, and U.S. real income per capita and productivity still exceed that of any of the other major industrial countries (Chart 1–10). Contrary to

popular myths, Japan still has a way to go to reach the level of per capita income enjoyed by the United States, and its productivity is only 70 percent of U.S. real gross domestic product (GDP) per worker. It is clear that the United States is still the world's economic leader. From this position the United States should continue to strive to provide the free markets and stability that have allowed it and the other market economies to succeed so well during the postwar period.

Chart 1-10

Real GDP per Employed Person in the Seven Summit Countries, 1987



Note.—Data based on purchasing power parity exchange rates.
Source: Unpublished data from Department of Labor.

SOCIAL PERFORMANCE

Although the 1981–82 recession was costly, the inflation that plagued the 1970s has been reduced dramatically. The expansion that followed brought strong job growth, growth in real family income, and increases in economic opportunity.

The economic expansion has improved the position of almost all demographic groups. Real median family income is up 9.4 percent since 1982. Black family income is up 10.5 percent, white family

income is up 9.0 percent, and Hispanic family income is up 3.9 percent.

Families across the distribution of income also showed gains. Between 1982 and 1987 families at the lowest fifth of the income distribution saw their income grow at a 1.4 percent annual rate, while those at the top fifth saw theirs grow at a 1.9 percent annual rate.

Tax reform will offset part of the faster relative growth in the before-tax money income of those at the upper end of the distribution. Tax reform cut low-income taxpayers' Federal income taxes by 65 percent, those in middle income groups by between 9 and 10 percent, and those in upper income groups by between 1 and 2 percent. Tax reform eliminated taxes for about 4 million low-income taxpayers.

Economic expansion also helped to reduce poverty. The poverty rate has declined from a postrecession high of 15.2 percent in 1983 to 13.5 percent in 1987. Unfortunately, the rising economic tide lifts only those boats that are in the water. Despite the lowest unemployment rate in 14 years, the head of the household in more than 85 percent of all families in poverty did not have a year-round, full-time job.

The continuing problem of poverty and dependency led to the Family Support Act of 1988, which the Congress passed in an attempt to increase individual responsibility, training, and support for low-income families. By strengthening provisions for child-support enforcement, the act requires fathers to take greater responsibility for their children. By introducing work requirements for those able to work and by extending employment-related services, the act is intended to help the poor to escape poverty and become self-supporting.

The Job Training Partnership Act (JTPA) was another step in the right direction. In contrast with the earlier Comprehensive Employment Training Act (CETA), where the bulk of the funds went for payments to individuals, JTPA focuses on training. By law, the block grant program—JTPA's largest program—must devote at least 70 percent of its funds to actual training compared with less than 20 percent under CETA. The JTPA provides training and job-finding services, using a decentralized approach. It gives State and local governments the responsibility and discretion to work with the private sector to train workers to meet local labor market needs.

These programs will certainly help, but much needs to be learned about incentives and dependency. For this reason, the Administration has assisted several States in undertaking welfare reforms designed at the local level, and has encouraged these States to employ randomized assignment for the purpose of subsequent evaluation. If the

Nation is to learn about the complex processes that determine dependency and self-sufficiency, it must provide the best possible opportunity to observe program effects. The object of study is too important to view through the veil of fundamentally arbitrary adjustments for pre-selection and other factors. Certainly, of all the welfare-related investments the Nation might make, an investment in understanding should rank high on the list.

CONCLUSION

The lessons of the past suggest that solutions to economic and social problems should place maximum reliance on free markets. Government has a role in providing a stable macroeconomic environment, encouraging free trade and investment, providing basic public goods and a social safety net, but lasting solutions are achieved when private incentives encourage private solutions.

Subsequent chapters of this *Report* expound on this general theme and the major functions that contribute to economic growth. Chapter 2 traces the role of fiscal policy in the 20th century, and especially the postwar period, in stimulating growth. Chapter 3 examines the role of international financial markets, capital movements, the international debt problem, and the role of international financial institutions in providing a framework for growth. Chapter 4 documents the significant reduction in trade barriers in the postwar period and the major contribution to growth that resulted. Regulatory issues and their relationship to long-term growth are explored in Chapter 5. Chapter 6 discusses the role of science and technology in increasing productivity, which underlies so much of the Nation's increased prosperity. Chapter 7 reviews the accomplishments of the present expansion and presents the Administration's economic forecast.

CHAPTER 2

Fiscal Policy and Economic Expansion

SOON AFTER WORLD WAR II ended, the United States started to put its economic house in order. The Federal Government committed itself in the Employment Act of 1946 to achieve for the Nation maximum levels of income, employment, and purchasing power. During the 1970s, however, the goals of the Employment Act eluded the Nation. Reduced real income, widespread and persistent unemployment, and the dollar's eroded purchasing power plagued the country. During the 1960s and 1970s attempts were made to use discretionary change in fiscal policy to stabilize the economy over short periods. By concentrating on the incentives created by Federal tax policy, this Administration redefined fiscal policy. The subsequent revitalization of the U.S. economy not only advanced the Nation toward meeting the goals of the 1946 commitment, but also led to a worldwide revolution in fiscal policy.

This Administration has pursued fiscal policy as part of a comprehensive program to reduce the role of the Federal Government in the economy and expand the role of the private sector in economic decisionmaking. The Federal tax system has been restructured by reducing marginal tax rates, indexing personal income tax brackets, and strengthening incentives for private capital formation. Federal Government expenditures have been subject to new controls to reduce both their rate of growth and the Federal budget deficit.

These policies have contributed to the longest peacetime expansion on record. During this expansion real gross national product (GNP) has increased 27 percent, and real per capita disposable income has increased 17 percent. Since November 1982 the economy has expanded, creating almost 19 million new nonfarm jobs and improving employment opportunities. Furthermore, inflation has been reduced to nearly one-third of its 1980 level. During the past 8 years the goals of the Employment Act of 1946 have been pursued through policies that have encouraged sustained economic growth, job creation, and reduced inflation.

For much of the postwar era fiscal policy emphasized discretionary changes in tax rates and Federal expenditures designed to regulate aggregate demand in ways that compensate for fluctuations in private

spending. It is now widely recognized, however, that the ability of the government to design and implement successful countercyclical fiscal policies is limited even though changes in tax and expenditure policies do have the potential to influence aggregate demand and real GNP. Government expenditure and tax policies are determined through the political process, which inevitably means that attempts to adjust aggregate demand to stabilize the economy are constrained. As Chapter 1 explains, variable and sometimes long delays occur in implementing discretionary changes in fiscal policy that limit their effectiveness in achieving timely adjustments in aggregate demand. Increased understanding of the effects of anticipations, such as expectations of changes in tax rates, on the timing of responses to fiscal policy has further increased doubts about the stabilizing properties of countercyclical fiscal policy.

The Federal budget has been in deficit throughout most of the postwar era and consistently since 1970. Since 1946 Federal revenues have rarely exceeded 20 percent of GNP. However, since 1970 the trend in the rate of growth of Federal Government expenditures has exceeded the trend in the rate of growth of tax revenues. While the political process has kept Federal Government revenues within a narrow range, fluctuating around 20 percent of GNP, the same process has also allowed Federal expenditures to expand as Federal entitlement programs grew. Persistent budget deficits are the result.

Since fiscal 1985 this Administration has been able to reduce Federal outlays and the Federal deficit as a percent of GNP. However, further controls on Federal Government spending are necessary to reduce the deficit and redress imbalances between investment and domestic saving. Unfortunately, the growth in spending has not been used for government nondefense investment, which has stagnated since 1970 as a percent of GNP. The Federal Government has increasingly been borrowing to finance transfer programs and other programs that fund consumption. The growth of Federal borrowing, combined with a lower net private saving rate in the United States since 1980, has given greater impetus to reduce government spending on consumption. Over the long run, fiscal policies can encourage private capital formation through low marginal tax rates. The tax incentives of the 1980s have encouraged private investment. Foreign saving has financed much of that investment. Further reductions in the growth of Federal spending are necessary to encourage increased national saving and to reduce U.S. reliance on foreign saving to finance domestic investment.

This chapter examines the evolution of fiscal policy in the postwar era and recent changes in Federal tax and expenditure policies. It discusses the rationale for moving away from countercyclical fiscal

policies to a fiscal policy that is primarily focused on the long-term goals of improving incentives and increasing capital formation. The chapter examines postwar changes in the structure of Federal Government spending and their effect on institutions, incentives, and capital formation, and reviews tax policy over the past 8 years and its influence on the economy. Finally, the chapter explores the Federal budget deficit within the context of an overall fiscal policy designed to encourage sustained economic growth over the long term.

THE EVOLUTION OF FISCAL POLICY IN THE POSTWAR ERA

Throughout much of the postwar era successive Administrations have attempted to stabilize the economy through temporary changes in Federal Government expenditure and tax policies. Yet great uncertainty has attended the timing and magnitude of the effects of discretionary fiscal policy on the performance of the economy. Forecasting the fluctuations of the economy is difficult and imprecise. It is rarely possible to know in advance when a recession will occur or when the economy will be subject to increased inflationary pressures. The information necessary to prevent a recession or control an expansion through fiscal policy may be impossible to obtain. Because of the uncertainties involved, attempts to use fiscal policy to fine-tune the economy can be procyclical rather than countercyclical.

Discretionary changes in fiscal policy during the postwar era have often taken place at the same time as changes in monetary policy. Most major fiscal policy initiatives were announced well before their actual implementation, virtually inviting anticipations of their eventual passage. Both the simultaneity of monetary and fiscal changes and the effect of fiscal policy proposals on expectations complicate the problem of measuring the timing and magnitude of their effects.

Lags between the proposal of a discretionary change in fiscal policy and its enactment vary considerably. For example, a 13-month lag occurred between the initial proposal of the tax cut of 1964 and its passage. The Tax Reduction Act of 1975, however, was enacted after only a 2-month lag. The success of fiscal policy in stabilizing the economy can be sheer luck. Major tax cuts that result from broad political pressures for tax relief have sometimes been fortuitously timed and have helped to speed an economic recovery. For example, the Congress imposed a major tax cut in the Revenue Act of 1948 over President Truman's veto; the cut moderated the recession of 1948–49, which began 7 months after the act became law.

Even if changes in fiscal policy are correctly timed, they can be ineffective in stabilizing the economy. For example, the temporary income tax surcharge enacted in June 1968 failed to dampen con-

sumer spending. Consumers responded by reducing personal saving, rendering negligible the impact of the tax surcharge in reducing inflationary pressures in the economy.

Some economists argue that tax cuts designed to increase aggregate demand with an unchanged level of Federal Government expenditures can result in an equal increase in saving. Empirical evidence indicates that much of a tax cut can end up as increased saving, although consumption is generally increased also. Changes in personal income tax rates in 1964 were largely offset by increased private saving although lower tax rates did provide improved incentives. Similarly, in 1975 a tax rebate of up to $200 per family appears to have gone initially into private saving rather than consumption. In addition, stimulative fiscal policies are often said to put upward pressure on real interest rates and adversely affect private investment.

The effect of countercyclical fiscal policies combined with monetary policy on the price level is also a matter of concern. From 1960 to 1982, as described in Chapter 1, a higher price level and a higher rate of inflation followed after each trough of the business cycle. Fiscal and monetary policies should encourage steady economic expansion without contributing to inflationary expectations.

To a large degree Federal expenditures and receipts automatically adjust to cyclical fluctuations in real GNP. Built into the Federal budget are automatic stabilizers (such as unemployment insurance benefits and payroll tax collections that vary with the rate of unemployment and a progressive rate schedule for income taxation) that act to maintain aggregate demand when national income falls. Similarly, reductions in some components of government expenditure and increases in tax collections under the Federal income tax system act to restrain aggregate demand when it is increasing. These automatic stabilizers cushion the effects of cyclical fluctuations in the economy and make an important contribution to moderating recessions and controlling upward pressure on the price level.

The success of a countercyclical discretionary Federal fiscal policy designed to fine-tune the economy is difficult to measure. Because changes in fiscal policy frequently occur at the same time as changes in monetary policy and other changes in the economy, it is difficult to isolate the separate influence of fiscal changes on the economy. Uncertainties, difficulties in forecasting, and variable lags in implementing discretionary fiscal policies complicate the measurement of the price and output effects of fiscal policy.

During the postwar period the Federal Reserve System and some administrations have attempted to coordinate monetary and fiscal policies to stabilize the economy. Despite the good intentions of policymakers, sometimes monetary policy has acted to frustrate the goals

of discretionary fiscal policy, and the combination of the two policies has destabilized the economy. For example, the Revenue and Expenditure Control Act of 1968, enacted 11 months after it had been proposed, was designed as an anti-inflationary tax surcharge. Yet saving fell and the surcharge failed to reduce consumption. Given the uncertainty of the macroeconomic situation at the time, however, the tax surcharge, and the accompanying Federal expenditure ceiling raised concerns about a recession. To reduce that likelihood, the Federal Reserve allowed the money stock to expand rapidly. In this case, monetary action proved more powerful than the fiscal restraints. The economy continued to boom and later to inflate. The expansion in the money supply fueled inflation and inflationary expectations. In 1969 the Federal Reserve reversed course abruptly, reducing the rate of monetary expansion. The reduction in the rate of monetary expansion contributed to the recession of 1970.

In the 1970s fiscal policies designed to trade inflation for employment contributed to increasing inflation without decreasing unemployment. Monetary growth in the 1970s set the economy on an inflationary course. Inflation contributed to higher effective marginal tax rates on real personal and corporate income in the 1970s, thus offsetting the effects of tax cuts and investment tax credits enacted at the time. Expansionary fiscal policies embodied in the Tax Reduction and Simplification Act of 1977 and the Revenue Act of 1978 were designed to increase employment, but they probably added upward pressure to the price level.

Excessive fiscal and monetary expansion during the period 1977–78 contributed to a further increase in the rate of inflation during the period 1979–81 without producing a lasting decline in the unemployment rate. The unemployment rate was over 7 percent in 1981 while inflation exceeded 9 percent, measured by the annual percent change in the GNP implicit price deflator.

Discretionary fiscal policies designed to stabilize the economy in the postwar era have as often destabilized the economy as contributed to stabilization. Recognizing its limitations, this Administration has used fiscal policy as a long-term tool for achieving sustained economic growth. Fiscal policy can stimulate growth by controlling Federal spending and redirecting it toward government investment programs, and can encourage capital formation and labor force participation by lowering marginal tax rates to improve incentives for work and investment. A cornerstone of such a policy is tax incentives to increase net private investment. Reduction of effective tax rates on capital income stimulates investment. Tax policies have encouraged investment and have been effective in increasing net investment in the United States since 1981.

THE GROWTH OF GOVERNMENT EXPENDITURES AND REVENUES

An appropriate long-term fiscal policy concentrates on adjusting the path of government expenditures and the tax structure to achieve efficient use of resources and the goals of the Employment Act of 1946. The constraints on such a policy can be best understood through examining the postwar growth of government and how Federal revenues have varied as a percent of GNP since 1947. The postwar era has experienced growth in spending at all levels of government. Chart 2–1 shows the upward trend in both total and Federal Government spending as a percent of GNP.

Chart 2-1

All Government and Federal Expenditures as Percent of GNP

Note.—Data are on a national income and product accounts basis.
Source: Department of Commerce.

The postwar growth of government reflects increased demands for government goods and services and increased Federal commitment to provide income support and subsidized services for such groups as the elderly, farmers, veterans, and the poor. Transfers to individuals increased from 25.8 percent of government expenditures at all levels in 1947 to a peak of 35.9 percent of expenditures in 1983.

Federal Government expenditures nearly doubled from 13.1 percent of GNP in 1947 to a peak of 24.7 percent of GNP in 1982. Since 1982 the share of GNP devoted to Federal expenditure has declined, falling to 23.7 percent of GNP in 1987.

State and local government spending, excluding Federal grants-in-aid, has grown more rapidly than Federal spending in the postwar period. The percent of GNP absorbed by State and local expenditure of nongrant funds has increased more than twofold. Government expenditures at all levels have increased from 18.5 percent of GNP in 1947 to a peak of 35.1 percent of GNP in 1982.

Chart 2–2 shows how Federal expenditures and receipts have varied as a percent of GNP on a fiscal year basis from 1947 to the present. From 1947 to 1969 Federal Government expenditures fluctuated from a low of 12.8 percent of GNP to a high of 20.9 percent. From 1970 to 1983 Federal expenditures rose from 20.1 percent of GNP to 25.1 percent. The same period was associated with increased Federal commitment to programs that involved direct benefit payments to individuals that mainly finance consumption.

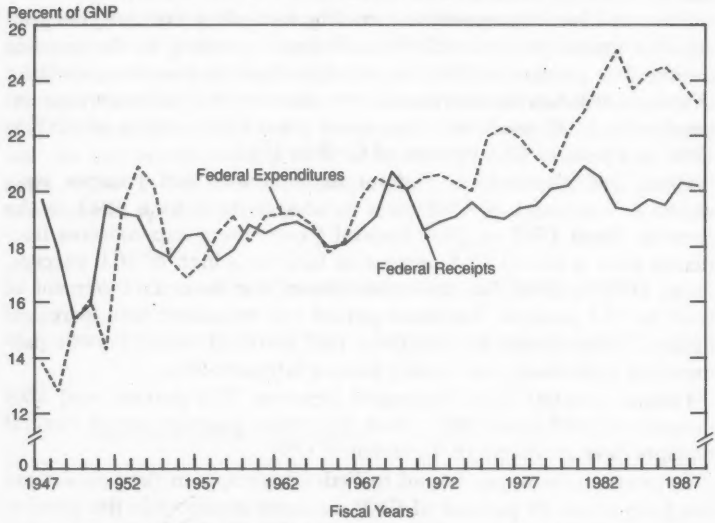
Federal receipts have fluctuated between 17.5 percent and 20.9 percent of GNP since 1951. Over the entire postwar period Federal receipts have averaged 18.9 percent of GNP.

In practice the upper bound to Federal receipts in the postwar era has been about 20 percent of GNP. In many instances in the postwar era, tax relief legislation has followed when Federal revenues, as a percent of GNP, have been at the upper bound of 20 percent. For example, in 1947 Federal receipts were 19.7 percent of GNP. The Revenue Act of 1948 became law in April 1948. When combined with the fiscal effects of the 1948–49 recession, the Revenue Act of 1948 contributed to reduce Federal receipts to only 15.4 percent of GNP in 1949. This was the postwar low. The Congress passed the Tax Reduction and Revenue Adjustment Acts of 1975 after Federal receipts again rose near 20 percent of GNP in 1974. It reduced taxes in 1977 (Tax Reduction and Simplification Act of 1977) and again in 1978 (Revenue Act of 1978), when Federal receipts were 19.5 percent of GNP. While reducing average tax rates, however, these tax reductions of the 1970s failed to reduce personal statutory marginal tax rates.

In 1979, Federal receipts as a percent of GNP rose above 20 percent of GNP. The Economic Recovery Tax Act of 1981 (ERTA) provided a major tax cut designed to encourage long-term economic expansion. Federal tax revenues fell from 20.9 percent of GNP in 1981 to 19.3 percent of GNP in 1984. By 1987, growth in the economy raised Federal revenues to 20.3 percent of GNP. Federal revenues are expected to be 20.2 percent of GNP in 1988.

Chart 2-2

Federal Receipts and Expenditures as Percent of GNP



Note.—Data are on a national income and product accounts basis.

Source: Department of Commerce.

The discrepancy between the growth in receipts and the growth in expenditures has implied a growing trend toward Federal budget deficits since 1970, which has made the Federal Government a net dissaver. The deficit has resulted from a political system that failed to contain Federal outlays but kept Federal tax collections below 21 percent of GNP. Administration fiscal policy in the 1980s has sought to reduce Federal spending as a percent of GNP, while at the same time reforming the tax system to improve efficiency and encourage capital formation.

THE STRUCTURE OF GOVERNMENT SPENDING

Government expenditures can influence the rate of capital formation and future living standards by affecting both incentives and economic institutions. Subsidy programs that distort incentives can adversely influence economic performance by affecting labor force participation, work effort, and resource use. Similarly, a shift of govern-

ment spending away from investment can also reduce the future capital stock and living standards. Other things being equal, government spending can influence consumption and investment in any given year. If government expenditure displaces investment purchases, it can lower future living standards. Government spending also affects resource demands and influences relative prices of goods and services. It is therefore important to examine the structure of government spending to see how such spending affects both capital formation and incentives to use resources efficiently in the private sector.

Federal investment expenditures include purchases of both defense and nondefense equipment and structures and outlays for research and development activities. The Federal Government also finances education and training that could be classified as investment in human capital. From 1963 to 1975, Federal outlays for physical investment, including Federal grants to help State and local governments to finance capital investment and grants for research and development fell from one-third of Federal expenditures to less than 16 percent. Chart 2–3 shows the trend in Federal investment as a percent of GNP. From 1968 to 1974, Federal investment outlays fell sharply both as a percent of Federal outlays and as a percent of GNP.

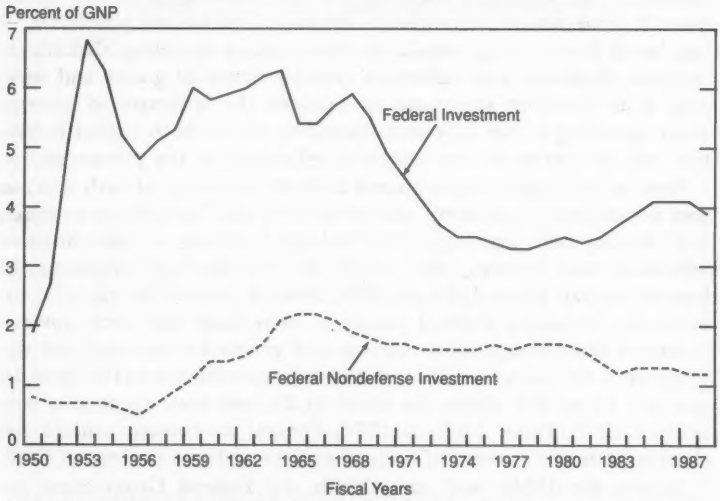
During the 1950s and early 1960s the Federal Government increased nondefense investment and spending for research and development as a percent of GNP. The government sector constructed highways, including the Federal Interstate Highway System, and invested heavily in educational structures and urban infrastructure. The Federal Government invested heavily in military weapons systems such as B–52 bombers. Although essential for national security, investment in defense does not directly contribute to improved future living standards in the same way as nondefense investment.

From the late 1960s to the early 1970s, Federal Government outlays for capital investment and for research and development plummeted both as a percent of total outlays and as a percent of GNP. By 1982 Federal outlays for investment as a percent of GNP were 60 percent of what they had been in the 1960s. The fall in the investment share of Federal spending is a matter for concern because it can adversely affect the productivity of inputs in the private sector as discussed in Chapter 1.

Federal nondefense physical investment and outlays for research and development account for close to one-third of Federal investment outlays. Federal nondefense investment as a percent of GNP grew from 1956 to 1966. After 1966 it first fell and then stagnated through much of the 1970s and early 1980s. The decline after 1980 reflects in part a shift of responsibility for such expenditures to State and local governments as real Federal grants were reduced. Federal

Chart 2-3

Federal Investment Outlays as Percent of GNP



Note.—Investment includes research and development, physical capital, and the investment component of grants-in-aid to State and local governments.

Sources: Department of Commerce and Office of Management and Budget.

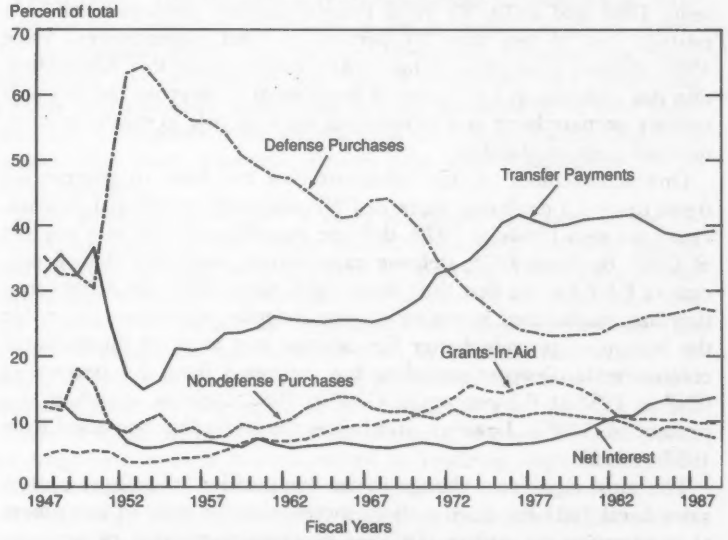
nondefense investment rose modestly from 1983 to 1986 but declined thereafter.

The postwar decline in the relative importance of Federal investment outlays parallels an increase in Federal direct benefit payments to individuals. By and large, these benefits constitute transfer payments that finance consumption by recipients.

Chart 2–4 shows trends in five major categories of postwar Federal Government spending as a percent of total Federal outlays. The rise in transfer payments from a postwar low of less than 15 percent of Federal expenditures in 1953 to a peak of 41.7 percent in 1983 represents a major redirection of Federal spending toward consumption. The relatively high level of transfer payments in the early postwar period largely reflected the GI bill much of which went to investment in human capital. Since 1950 the Federal Government has expanded the level of support under old-age survivors and disability insurance to increase cash transfers to the elderly and others on social security pensions. In 1965 the Congress enacted the medicaid and medicare programs to assist the indigent and the elderly in obtaining health care. Various government subsidy programs including

Chart 2-4

Federal Expenditures by Type



Note.—Data are on a national income and product accounts basis. Total expenditures includes subsidies less current surplus of Government enterprises and wage accruals less disbursements, not shown separately.

Source: Department of Commerce.

food stamps and housing assistance also grew in the 1960s as did expenditures under the means-tested Aid to Families with Dependent Children (AFDC) program. These direct-benefit programs provided assistance to the aged, disabled, indigent, and disadvantaged, but also distorted choices of recipients and reduced work incentives. The subsidy programs encouraged consumption of medical care by reducing the price to recipients of such services below the costs of providing the services. The increase in social security pensions induced many elderly to leave the labor force at an earlier date than they would have otherwise. Expenditures for means-tested assistance under AFDC and in-kind transfer programs may have discouraged the poor from seeking employment and job skills, thus contributing to welfare dependency. Under this Administration the growth rate of means-tested subsidies and transfers has slowed, while the share of payments going to the most needy has increased.

Chart 2–4 shows that defense spending as a percent of total Federal expenditures experienced a sharp downward trend between fiscal years 1953 and 1978. By 1978 Federal defense purchases fell to a postwar low of less than 24 percent of total expenditures. Since 1980, defense expenditures have risen somewhat as this Administration has undertaken a program of investment to improve the Nation's military preparedness and to maintain the U.S. role in ensuring international political stability.

One achievement of this Administration has been to reverse the trend toward a declining share of GNP allocated to national defense. From the mid-1950s to 1979, defense expenditures fell as a percent of GNP. By fiscal 1978, defense expenditures were less than 5 percent of GNP for the first time since 1950. Since 1981 the Administration has emphasized investing in new defense capabilities to enable the Nation to provide better for defense and to meet international commitments. Defense spending has increased from 5.4 percent of GNP in 1981 to 6.5 percent of GNP in 1987. Defense spending as a percent of GNP is, however, still below the levels that prevailed from 1955 to 1965.

The most significant change in the composition of defense outlays since fiscal 1981 has been a sharp increase in the ratio of investment to noninvestment outlays. Defense investment consists of weapons systems procurement, military research and development, and military construction. The ratio of investment to noninvestment defense outlays had declined from around 0.75 in the early 1960s to below 0.43 in 1976, but has risen sharply since 1981 to more than 0.70 in 1987. The modernization of the Armed Forces has resulted in only a modest increase in defense purchases as a percent of total Federal outlays.

In summary, the postwar composition of government spending has indisputably moved from defense and investment purchases to programs that transfer income and services to individuals. The effects of these programs on incentives to work and to use resources efficiently must continue to be scrutinized so that social objectives are achieved in ways that minimize efficiency losses in resource use and consequent loss of output.

The decline in Federal nondefense investment could reduce future living standards. Future administrations should consider expanding programs of nondefense investment, including investment in infrastructure and education, to improve future productivity.

THE LONG-RUN VIEW OF FISCAL POLICY

Fiscal policy over the past 8 years has sought to establish an environment for continued expansion of the economy's long-run potential to produce goods and services. Reducing marginal tax rates, eliminating tax preferences that distort incentives, and controlling growth of government outlays can free up resources to be used more efficiently to improve living standards in the United States. Chapter 1 showed that most economic groups have shared improvements in living standards.

Fiscal policy over the past 8 years improved incentives to use resources efficiently in the private sector. Since 1982 real GNP has increased at an average annual rate of 4.2 percent. The expansion has contributed to rising employment as a percent of the population and has reduced the civilian unemployment rate below 5.5 percent. This record of expansion has occurred even as inflation has dropped to nearly one-third of its 1980 rate and as interest rates have fallen substantially since the beginning of the decade. In contrast with earlier efforts to trade off inflation for employment, the use of fiscal policy for long-term growth has succeeded in realizing high employment with low inflation.

Productivity in manufacturing, measured from the business cycle peak in 1981, has risen at a faster rate than the postwar average and 2.6 times the rate of increase achieved between the business cycle peaks in 1973 and 1981. Tax policies designed to stimulate private investment have helped modernize the capital stock in the manufacturing sector and have probably contributed to this impressive record of productivity growth.

Taxation affects national well-being through its indirect effects on private incentives. Taxes result in a reallocation of purchasing power, but they can reduce incentives to use resources in the private sector efficiently. A tax system that weighs heavily on income from capital can adversely affect investment and the future level of income and standard of living. Similarly, taxes can also distort the work-leisure choice and impair work incentives, thereby causing losses in efficiency in labor markets.

A Federal budget that imposes high taxes on capital income to finance government consumption and private consumption through transfer payments to individuals is likely to adversely affect capital formation. Because taxes on capital income reduce the return to investment, they discourage private investment. The low economic growth in the United States from 1973 to 1982 was in part a result of fiscal policies that distorted the efficient use of resources and impaired incentives to save and work. Changes in tax policy since 1981

have improved incentives to use resources efficiently in the private sector through lower statutory marginal tax rates on both personal and corporate income and curbs on tax preferences that distort investment choices.

If the 1980 tax law were still in place today, Americans would probably be paying considerably more than 20 percent of GNP in taxes. Reduction in marginal tax rates and indexing of personal income tax brackets for inflation have prevented the moderate inflation of the past 6 years from pushing taxpayers into higher tax brackets and paying larger shares of their real income in taxes.

Despite the reductions in personal and corporate income tax rates, average Federal receipts as a percent of GNP have been higher in the last 8 years than the average for the 1970s. In the 1970s Federal receipts averaged 19.3 percent of GNP, while from 1981 to 1988 Federal receipts averaged 20.0 percent. Much of the growth in Federal receipts has resulted from economic expansion. Increased payroll tax collections have also increased Federal revenue. This is the result of higher payroll tax rates and increases in maximum wages subject to payroll taxes.

Federal outlays still remain above Federal tax revenue. This difference requires that the Federal Government continue borrowing to cover its budget deficit. Further controls on Federal outlays to reduce the Federal budget deficit are required.

TAX POLICY AND ITS IMPACT ON THE ECONOMY IN THE 1980s

The Congress has enacted two tax acts of historic significance since 1981: The Economic Recovery Tax Act of 1981 (ERTA) and the Tax Reform Act of 1986 (TRA). These acts have resulted in a fundamental restructuring of income taxation in the United States to improve incentives to produce, save, and invest and to encourage more efficient use of resources in the private sector.

The Economic Recovery Tax Act of 1981 reduced the top marginal tax rate for individual income from 70 to 50 percent. It reduced marginal tax rates on given levels of nominal income for all tax brackets while indexing personal exemptions, the standard deduction, and tax brackets in 1985 to prevent bracket creep. The indexation of tax brackets was designed to prevent future inflation from pushing individuals with no change in real income into higher tax brackets.

The act significantly reduced the average burden of taxation for American families compared with what it would have been without a change in the tax law. The tax reduction resulted primarily from a 23 percent across-the-board cut in marginal tax rates. Another provision

of ERTA was a special deduction for married couples designed to encourage labor force participation of both spouses by lowering the marginal tax rate on earnings of the lower earning spouse. These cuts in marginal tax rates acted to increase the incentives to work and to invest. The act also encouraged household saving through special deductions for retirement saving.

ERTA significantly changed the treatment of capital expenditures to encourage private investment and research and development. The accelerated cost recovery system and an increase in the investment tax credit for some types of equipment allowed an increase in the real after-tax rate of return for many types of investment. The provision to allow expensing of up to $5,000 worth of equipment in 1982 and 1983 is likely to have increased the return to all types of small business investment. The Tax Reform Act of 1986 increased expensing of capital to $10,000 worth of equipment. Expensing allows businesses to deduct capital outlays as a current cost when calculating taxable income.

Changes in the tax treatment of investment goods increased the real rate of return to investment in the United States relative to that in foreign nations and partially offset the distortions resulting from the high inflation of the 1970s. ERTA significantly reduced the effective tax rates on all new depreciable assets, but was relatively more favorable to investment in equipment and vehicles than to other types of investment goods.

The Economic Recovery Tax Act sought to improve future living standards by reducing the tax rates on capital income and encouraging investment. This historic change in tax policy sought to increase the Nation's capital stock.

Unlike many of the tax cuts of the postwar era, ERTA was designed as a fundamental restructuring of the tax system rather than as a temporary stimulus to aggregate demand. The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) scaled back some of the investment incentives of ERTA by adjusting the accelerated cost recovery system in order to prevent cost recovery benefits from actually exceeding those of expensing. Nevertheless, the ERTA-TEFRA reforms significantly reduced the effective tax rate on most investments. One estimate shows that ERTA sharply reduced tax rates on capital by more than 50 percent, on average, compared with effective tax rates prevailing in 1980. Despite the TEFRA changes that increased effective tax rates on capital (which in some cases was zero or negative), these tax rates were still estimated in 1982 to be considerably below the levels that prevailed in the 1970s.

The Tax Reform Act of 1986 represented a broad overhaul, probably the most extensive in U.S. history, of the structure of both the

personal and corporate income tax. This act further lowered marginal tax rates on personal income and reduced the number of tax brackets while broadening the tax base to prevent significant loss of tax revenue. The act eliminated many tax preferences that distort choices so as to improve efficiency of resource use. The revenues obtained from reducing wasteful tax preferences have allowed a reduction in statutory marginal tax rates for taxpayers so as to encourage work effort and capital formation. The top personal marginal tax rate effective in 1988 is 33 percent for taxpayers subject to phase-out provisions affecting the personal exemptions and the 15 percent bracket. However, the top marginal tax rate for those in the highest taxable income class is limited to 28 percent.

The Tax Reform Act of 1986 also resulted in a somewhat higher effective marginal tax rate on capital income because it changed depreciation rules, the tax treatment of long-term capital gains, and repealed the investment tax credit. However, more uniform tax rates on alternative types of investments also resulted from a change in depreciation rules designed to improve the allocation of investment. Phasing out tax preferences such as the deduction of nonmortgage consumer interest on personal income tax returns was designed to change the allocation of private spending away from consumer durables toward business investment.

By reducing personal and corporate marginal tax rates, it has been possible to reduce the Federal Government's drag on both growth in the private sector and incentives. Reduction in personal and corporate income tax rates has not, however, resulted in a decline in Federal revenues as a percent of GNP because the tax base has been broadened, the economic expansion has increased income, payroll taxes have been increased, and wasteful tax preferences have been eliminated. Nevertheless, the reduction in tax rates has served to make disposable income greater than it would otherwise have been, thereby allowing more private consumption and saving while encouraging private investment.

Research on the effects of U.S. personal tax rate reductions under ERTA indicates that changes in taxpayer behavior that increased taxable income recouped as much as 40 percent of the revenue loss that would have resulted from the tax rate cuts. Some evidence on the effects of the ERTA tax cuts indicates that the response to the reduction in marginal tax rates has been greatest for taxpayers in the highest tax brackets: as a result the share of income tax paid by the highest income groups actually increased. Annual taxes paid by taxpayers with nominal taxable incomes of $200,000 or more increased by nearly $10 billion in 1985 relative to what they would have paid had

no change in tax rates and no macroeconomic response to the changes in tax rates occurred.

REDUCTION IN TYPICAL FAMILY TAX BURDENS

The tax reforms of the 1980s have prevented the Federal income tax burden from increasing sharply for virtually all families. For example, had there been no tax changes during the 1980s, a married couple with two dependent children with a single earner earning a median income of $29,654 in 1987 and taking average itemized deductions would have paid $3,840 in Federal income tax. With the reduced tax rates this family's Federal income tax liability in 1987 was actually $2,389. Such a family pays 38 percent less in personal taxes than it would have were the 1980 tax law still in effect. The average Federal tax rate for this family in 1987 was 8.1 percent. Were the 1980's law still in effect, this family would pay an average tax rate of 12.9 percent.

Two-earner families have enjoyed even greater savings. A family consisting of a married couple and two dependent children, taking average itemized deductions and earning the median income of $38,022 for two-earner families of four in 1987, enjoyed a 51 percent Federal tax cut. Such a family would have paid $5,009 in income taxes were the 1980 law still in effect in 1987. The actual tax bill was only $2,456, a tax cut of $2,553. The average tax rate for such a family would have been 13.2 percent without tax changes since 1980. With the tax changes of the 1980s this family paid only 6.5 percent of its income in taxes. Table 2–1 shows how tax changes have affected one- and two-earner families with median income under assumptions about their average tax deductions. Estimates for 1988 show similar tax savings after the provisions of TRA were fully in effect.

TABLE 2–1.—*Income Tax Reductions: Current Law Versus 1980 Law, Median Income One-Earner and Two-Earner Families of Four*

Year	Median income one-earner family of four				Median income two-earner family of four			
	Income	Taxes under		Reductions under current law[1]	Income	Taxes under		Reductions under current law[1]
		Current tax law[1]	1980 tax law			Current tax law[1]	1980 tax law	
1980	$20,429	$2,081	$2,081	$0	$25,669	$2,227	$2,227	$0
1981	21,690	2,266	2,295	29	27,803	2,605	2,648	43
1982	22,777	2,217	2,487	270	29,316	2,333	2,970	637
1983	23,885	2,183	2,691	508	30,581	2,150	3,236	1,086
1984	25,561	2,295	3,003	708	32,549	2,313	3,670	1,357
1985	25,849	2,284	3,087	803	34,469	2,541	4,129	1,588
1986	28,388	2,591	3,574	983	35,336	2,598	4,353	1,755
1987	29,654	2,389	3,840	1,451	38,022	2,456	5,009	2,553
1988[2]	30,863	2,626	4,106	1,480	39,572	2,737	5,393	2,656

[1] "Current tax law" refers to the law in effect in year shown.
[2] Estimated.
Sources: Department of Labor (median income data) and Office of Management and Budget.

The reductions in the marginal tax on labor income encourage labor force participation particularly of second earners. Because TRA reduced the difference between gross wages and net wages at the margin, it provides workers with an incentive to increase their work effort.

The act cut the average Federal tax rate paid by families with an annual income of less than $10,000 by more than one-half, and it is estimated that tax reform will reduce the number of low-income families paying Federal income tax in 1988 by more than 4 million.

TAX REFORM AND CAPITAL FORMATION

Under ERTA, capital formation was encouraged through measures to increase both saving and investment. Stimulus to saving came from reductions in marginal tax rates and from availability of individual retirement accounts for a broad spectrum of taxpayers. Stimulus to investment came from reduction in tax rates, accelerated depreciation, and investment tax credits. As shown in Table 2–2, ERTA was followed by an improvement in the annual average growth rate of U.S. gross domestic investment. Real gross domestic investment grew at an average annual rate of 5.6 percent from 1980 to 1986 compared with an average annual rate of only 2.1 percent from 1965 to 1980. Compared with other major industrial market economies the U.S. improvement in investment is impressive. Over the same period gross domestic investment in Japan grew by only 3.2 percent per year on average. As shown in Chapter 1, however, net investment in the United States grew more slowly than gross investment because of a shift to shorter lived assets during this period.

TABLE 2–2.—*Growth of Real Gross Domestic Investment in the Seven Summit Countries, 1965–86*

[Average annual percent change]

Country	1965 to 1980	1980 to 1986
United States	2.1	5.6
Japan	6.7	3.2
West Germany	1.7	−.1
France	3.8	−.2
United Kingdom	1.2	4.7
Italy	2.5	−1.1
Canada	4.7	1.6

Source: The World Bank, *World Development Report 1988.*

The Economic Recovery Tax Act contributed to a reduction in effective rates of taxation of capital compared with levels existing in the 1970s. Taxes directly influence the cost of capital, which is the pretax return on a new investment required to cover the marginal

cost of the investment given the market rate of interest, the rate of inflation, and the taxes levied on the income from the investment. The cost of capital has been estimated in one study to be higher in the United States than in several foreign nations. Although some controversy surrounds these data, some estimates based on the 1985 Tax Code suggest that the cost of capital in the United States has been about twice the cost of capital in Japan. The cost of capital in the United States also exceeded the cost of capital in the United Kingdom, but the estimated differential was not as great as that for Japan.

The average difference between the gross and net rate of return after taxes in the United States has been estimated to be more than 3 percentage points. Because corporate investments financed with equity in the United States receive less favorable tax treatment than do investments financed with debt, the taxes on equity-financed investments are higher than average. High taxes on capital income do contribute to the differential in the cost of capital between the United States and some foreign nations. Both the United Kingdom and Japan, for example, have taxed capital lightly. West Germany, however, has taxed capital income relatively heavily. The tax burden on corporate equity capital in the United States has also been estimated to be relatively high, with the difference between gross return and the net return after taxes running at 5 percentage points. According to one estimate, an investment financed with equity that cost 7 percent yielded only 2 percent after taxes in the United States in the mid-1980s.

The United States taxes capital income through the personal and corporate income taxes. In addition it now taxes realized capital gains and generally taxes all such gains (except for those on principal residences in most cases) as ordinary income. Reducing the tax burden on capital income would contribute to attracting funds into domestic capital formation in the United States.

Despite adjustment in the original ERTA rules in 1982, the act represented a powerful incentive for investment. Its tax reforms contributed to a substantial increase in net fixed nonresidential investment in the first half of the 1980s. ERTA also contributed to an increase in the real after-tax net return on capital in the nonfinancial corporate sector. Estimates indicate that ERTA also contributed to an increase in the investment-to-GNP ratio. Further, lower inflation resulting from this Administration's economic policies also has stimulated investment. The ERTA tax changes along with reduced inflation are likely to have been a major reason for increased productivity growth in the 1980s and the improving competitiveness of U.S. manufacturing industries in international markets.

Under TRA the average effective tax rate on capital increased. This increase arises mainly because TRA was designed to finance the cut in the personal income tax burden with a rise in the corporate tax burden. Despite its reduction in the top statutory corporate tax rate from 46 to 34 percent, TRA's other provisions—such as elimination of the investment tax credit and changes in depreciation rules—offset the reduction in the tax rate and raised the cost of capital on average. Other things equal, the increase in the marginal effective tax rate on capital resulting from the new Tax Code will act to reduce investment. The act's other changes will even out the effective tax rates on alternative investments, however, and thus moderate this effect. The evening out of tax rates on alternative investments, combined with elimination of tax deductibility of consumer nonmortgage interest, will provide incentives to allocate investment funds more efficiently. The economic effect of reduced investment due to the increase in the effective tax rate will therefore be offset at least in part by improved efficiency in investment choices as distortions in the pattern of investment choices are reduced.

Overall, the tax reform is likely to increase net national product after a period of adjustment. The new tax law will contribute to more efficient investment patterns by eliminating tax shelters that have encouraged the purchase of assets for resale so that new owners can redepreciate them.

Table 2–3 provides estimates of how TRA has influenced effective tax rates on corporate and noncorporate capital investments compared with prior law. The average tax rate on investment has increased from 33.3 to 36.5 percent. The increase in the tax rate on investment has been greater in the corporate sector than in the noncorporate sector. The new law has reduced the variance of effective tax rates on alternative investments by more sharply increasing the effective tax rates on investment in equipment relative to the increase in the effective tax rates on structures, including owner-occupied housing. The effective tax rates on land and inventories have fallen.

Despite the increase in the effective tax rate on capital investment resulting from TRA, tax reform remains consistent with a fiscal policy that encourages capital formation. Problems in the taxation of capital income remain, however, because depreciation allowances, capital gains, and interest income and expenses have not been indexed for inflation. Higher inflation would raise the effective tax rate on capital, as it did in the 1970s. Some concern also remains about the effects of the increase in the statutory tax rate on capital gains on incentives to invest and to realize capital gains.

Lack of indexation of depreciation allowances, capital gains, and interest will distort decisions by taxing nominal as opposed to real

TABLE 2–3.—*Estimated Average Effective Tax Rate on Investment*

[Percent]

Type of asset	Prior to TRA[1]	Under TRA[1]	Prior to TRA[1]	Under TRA[1]
OVERALL TAX RATE ON INVESTMENT	33.3	36.5		
Owner-occupied housing	22.5	23.7		
	Corporate		Noncorporate	
Equipment	10.0	39.6	−11.9	25.4
Structures:				
Nonresidential	34.4	43.1	27.8	31.4
Residential	49.5	52.5	38.2	40.6
Public utility	32.6	44.5	22.1	33.6
Inventories	48.8	45.8	33.0	30.5
Land:				
Nonresidential	50.6	47.8	36.1	33.8
Residential	53.9	51.4	41.4	39.5
OVERALL WITHIN SECTOR	38.7	44.4	33.2	33.9

[1] Tax Reduction Act of 1986.

Source: Department of the Treasury, Office of Tax Analysis.

capital income. In an inflationary environment, the effective tax rate on real capital gains and investment purchases will increase, thereby increasing the cost of capital. In an inflationary environment with no indexation of nominal capital gains or depreciation allowances based on historical cost, inflation biases an income tax toward consumption. To ensure continuing incentives for capital formation, therefore, inflation must continue to be reduced or depreciation allowances and capital gains and other inflation-sensitive income and deductions should be indexed.

In view of the positive response by upper income groups in realizing more capital gains after the ERTA tax reductions, some concern arises about the effects of the increase in the capital gains tax rate under TRA on tax revenue and investment incentives. The tax rate increase is the largest applied to capital gains in the postwar era. Some evidence now indicates that capital gains realizations are highly sensitive to tax rate changes and to anticipation of such changes. High tax rates on capital gains tend to lock investors into their portfolios because unrealized capital gains are not subject to taxation.

High tax rates on capital gains may also have long-term implications for capital formation and entrepreneurial activity. The capital value of a new business typically rises as the business succeeds. Owners of the business can receive income in the form of capital gains through sale of equities in the business. Higher capital gains taxation can, therefore, adversely affect the return to entrepreneurial activity over the long run and further reduce incentives for capital formation.

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The tax reform movement has spread worldwide. Spurred on by the success of tax reform in the United States, many nations are reducing marginal tax rates and adjusting their tax systems to encourage capital formation and increase incentives to work. Following the lead of the United States, most nations in the Organization for Economic Cooperation and Development have reduced marginal income tax rates.

Other nations raise substantial revenue with national value-added taxes on a base that explicitly excludes investment purchases. The heavy use of payroll taxes, which are not levied on capital income, along with consumption-based value-added taxes has contributed to reduced tax burdens on capital per dollar of tax revenue in many of those nations relative to the United States. Dividends in the United States remain subject to double taxation—taxed as income to corporations and again as personal income to the stockholders. Most of the European Community members have policies to relieve some of the double taxation of corporate income. On the other hand, most of these nations impose higher taxes on the use of labor.

The U.S. tax system still encourages investment in owner-occupied housing. The effect of TRA on investment in homeownership is difficult to forecast. The reduction of marginal tax rates and reduction of the number of itemizers will reduce incentives for homeownership. Other provisions in the Tax Code, however, encourage homeownership. For example, in most cases capital gains from the sale of a home still receive preferential treatment as does debt incurred to buy a home relative to debt incurred to purchase other consumer durables. Interest on mortgage debt is largely tax deductible while interest on other household loans is not. In addition, imputed rent on owner-occupied homes is not taxed. Some countries restrict the interest deduction for homeownership and some actually tax imputed rent from homeownership. The United States still has a tax system that distorts investment choices in favor of homeownership relative to other investment opportunities.

In sum, the tax policies of the past 8 years have improved incentives for capital formation and efficient resource use. A consistent long-term fiscal policy is necessary for the incentive effects of tax reform to bear fruit. Stability in the tax structure is needed to maintain long-term incentives for capital formation and to improve efficiency in resource allocation. Future fiscal policy must avoid raising marginal tax rates, which would reduce incentives for capital formation and lower future standards of living.

CONTROLLING FEDERAL OUTLAYS AND THE FEDERAL BUDGET DEFICIT

During the past 8 years Federal taxes as a percent of GNP have actually increased compared with average levels during the 1970s, while marginal and average tax rates declined. In view of the harmful effects of high marginal tax rates on private capital formation, a goal of this Administration has been to reduce the Federal deficit by reducing the growth of Federal outlays. In fiscal 1987, Federal outlays adjusted for inflation declined for the first time in 14 years. The budget process must be reformed and Federal spending must be restrained to reduce the budget deficit further.

The Balanced Budget and Emergency Deficit Control Act of 1985, as amended in 1987 (the Gramm-Rudman-Hollings Act) calls for a balanced Federal budget by 1993. The Gramm-Rudman-Hollings Act provides a framework for reducing the budget deficit through sequestration of funds when the budget deficit reaches specified trigger levels. A sequester would involve permanent cancellation of budget authority for a broad category of defense and nondefense programs. Except for 1993, when the target is a zero deficit, the sequester triggers are $10 billion over the target deficits for each year. Table 2–4 shows the target deficits and sequester triggers for 1990 to 1993. In the event of a recession, however, the Congress can suspend Gramm-Rudman-Hollings for the remainder of a fiscal year or for the following fiscal year, or both, upon passage of a joint resolution.

TABLE 2–4.—*Deficit Targets Under the Gramm-Rudman-Hollings Act, 1990–93*

[Billions of dollars]

Fiscal year	Target deficit	Sequestor trigger
1990	100	110
1991	64	74
1992	28	38
1993	0	0

Source: Gramm-Rudman-Hollings Act.

The "budget summit" in the fall of 1987 resulted in a 2-year, $76-billion budget reduction package that for fiscal 1988 and 1989 complied with Gramm-Rudman-Hollings. Further reduction of the deficit will require cutting inefficient programs to eliminate waste and perhaps relying more on user fees to shift the cost of particular services from taxpayers to those who benefit from the service. Programs of purely local benefit should be transferred to State and local governments. Gramm-Rudman-Hollings increases incentives for the Con-

gress to control spending, and as such represents an important contribution to reducing the deficit without raising taxes.

THE FEDERAL DEBT AND DEFICIT IN PERSPECTIVE

The deficit and U.S. national debt must be put in perspective. The current government sector's net debt burden as a percent of GNP is well below historical highs and is also well below the levels for several other industrial nations. The United States and other developed nations have in the past prospered with government debt levels significantly higher than U.S. current levels without significant reductions in standards of living or growth.

Progress has been made in reducing the Federal budget deficit. The Federal deficit has declined from 5.4 percent of GNP in fiscal 1985 to 3.2 percent of GNP in fiscal 1988 and is projected to decline still further as a percentage of GNP.

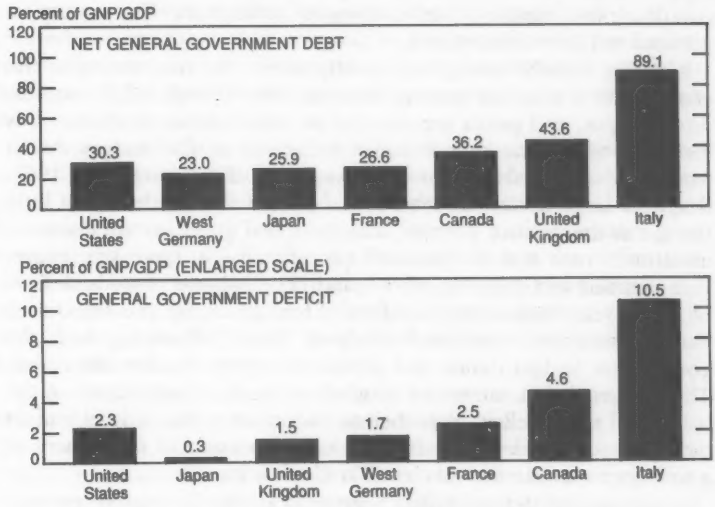
The general government deficit in the United States is less than the Federal Government deficit because State and local governments in the aggregate have run budget surpluses in recent years. For example, in 1987 State and local governments in the aggregate in the United States ran a $52.9 billion budget surplus; the nominal Federal Government budget deficit that year was $157.8 billion. The net dissaving by governments at all levels that year therefore amounted to $104.9 billion which was the combined government deficit on a national income and product accounts basis. This net dissaving by the government sector amounted to 2.3 percent of GNP in 1987.

Chart 2–5 shows the 1987 net public debt of the government sector and the general government deficit in seven major industrial nations (the G-7) as a percent of the value of national production. The U.S. net public debt is a smaller percent of the value of national production than the net public debt of Canada, the United Kingdom, and Italy and is not much higher than that of Japan and France. The 1987 general government deficit as a percent of the value of national production in the United States was less than that for France, Canada, and Italy in that year.

How to measure the Federal budget deficit is controversial. For example, inflation results in overstating Federal Government net interest payments. Assuming 5 percent inflation, a 7 percent nominal interest rate on the net Federal debt results in $70 of Federal outlays for each $1,000 of net Federal debt. But $50 of the $70 represents receipts to the Federal Government in the form of an "inflation tax" on the holders of the net Federal debt. Government accounts treat the payment of interest—the entire $70—as an expenditure but do not record the inflation tax as a receipt. Adjusting the nominal deficit for the inflation component of interest rates results in a real deficit

Chart 2-5

Debt and Deficit in the Seven Summit Countries in 1987



Source: Organization for Economic Cooperation and Development.

much smaller than the nominal deficit. This outcome occurs because interest payments now constitute a substantial portion (about 14 percent) of Federal expenditures.

While lack of adjustment for inflation tends to overstate the deficit, other omissions act to understate its real value. For example, Federal Government loan and loan guarantee programs and insurance programs involve spending commitments that are not valued in the current budget. The cash deficit could increase substantially in a given year if loan guarantees were to become due. Similarly, the recent experience of the Federal Savings and Loan Insurance Corporation illustrates how underfunded Federal insurance programs can possibly require increased Federal outlays. A reserve or contingency fund accurately covering the value of expected losses under loan guarantees and other unfunded liabilities of Federal Government agencies would increase, and more accurately reflect, Federal Government spending commitments.

The economic effects of government deficits are highly controversial. In any given year, the Federal budget deficit is a measure of the

nominal amount of Federal dissaving. The deficit is a concern of fiscal policy because it could result in pressure to increase the money supply, which would increase the price level. The deficit can also contribute to a misallocation of resources through its effect on capital markets and private incentives.

A deficit absorbs saving but actually affects the total saving in the economy in a complex manner. Because the Federal deficit, interest rates, output, and prices are parts of an interdependent system, it is incorrect to assume that a dollar reduction in the budget deficit would add an equal amount to gross saving. For example, in 1987, despite a large decline in the Federal budget deficit, there was little change in the balance of trade deficit, as real gross private domestic investment rose and the personal saving rate fell, increasing aggregate demand and thus import demand. The balance of trade deficits of recent years and consequent flow of foreign saving into the United States constitute a combined result of forces influencing both the government budget deficit and private incentives to save and invest. The budget deficit cannot be singled out as the single cause of the balance of trade deficit. Nonetheless, reduction in the Federal budget deficit through spending restraint remains an essential component of a strategy to reduce the balance of trade deficit.

A government deficit implies borrowing to pay for current government goods and services. Such borrowing can be justified if governments use the borrowed funds to provide investment goods that will generate a stream of future benefits to offset the future taxes that must be raised to pay interest on the borrowed funds. A deficit that finances an increase in public or private investment outlays, as opposed to consumption outlays, can actually improve future living standards. A complicated issue in analyzing the Federal deficit over the long run involves determining how the deficit and the composition of government outlays, along with tax structure, influence capital formation, resource use, and incentives to produce, save, and invest.

This discussion is not meant to minimize the negative influence of the current budget deficit on capital formation. Although there are disputes about estimated effects, studies indicate that the overall effect of deficits in the postwar era has been to reduce U.S. capital formation. These studies imply that future fiscal policy would improve future living standards by continuing to reduce the rate of government dissaving by controlling Federal Government expenditures.

THE SOCIAL SECURITY TRUST FUNDS' BUILDUP AND THE BUDGET DEFICIT

One of the more significant fiscal changes in the postwar era has been the growth of social security and medicare benefits, their indexation for inflation, and the consequent increase in payroll taxes to fi-

nance these benefits. Legislation enacted in 1977 and in 1983 increased payroll tax collections and mandated future increases. Annual payroll tax collections have begun to exceed annual payouts for social security benefits. The social security trust funds have increased and are forecast to continue to do so until the second quarter of the next century. For a time the social security trust funds buildup will increase Federal Government saving and contribute to a decline in the Federal budget deficit.

Awareness of large projected old-age survivors and disability insurance (OASDI) trust funds' surpluses has resulted in some concern about how the trust funds' surpluses might be used. Some observers fear that the trust funds' surpluses will be used to finance other government spending or will offer a solution to reduce the deficit that avoids the basic issues of cutting wasteful programs and improving resource use in the economy. Although these concerns are valid, it must be emphasized that the magnitude of the social security trust funds' buildup has been overstated.

The OASDI trust funds constitute budget accounts, not cash. When the trust funds are drawn upon to pay benefits, the Treasury must raise cash. When spending for social security benefits in a given year is less than receipts earmarked for those benefits, the excess receipts are loaned to the Treasury. The Treasury credits a special issue Treasury bond to the OASDI trust funds and credits interest on the bond at a rate equal to the average rate for marketable Treasury securities of 4 years or more to maturity.

Payment of interest on the special issue bonds held by the OASDI trust funds is merely an intragovernmental transfer. The interest credited to the trust funds is a general fund liability of the Treasury. In effect the Treasury issues a promise to pay the interest by making a note in its books. Much of the buildup of the trust funds over the next 30 years will constitute interest that the Treasury credits to the funds in this way.

A proper view of future trust funds' surpluses requires adjustments for inflation, for interest transfers to the funds that do not constitute net income to the Federal Government, and for the forecast deficits in the social security hospital and health insurance funds (HI). After these adjustments, the surpluses are much smaller relative to the Federal unified budget than unadjusted surpluses. Table 2–5 shows projections of OASDI and HI surpluses and deficits, excluding interest credited to the trust funds, in both current dollars and 1988 dollars. The annual projected OASDI surpluses never exceed $75 billion in 1988 dollars. The maximum OASDI surplus in the year 2005, after adjustments, constitutes less than 7 percent of 1988 Federal spending. Adjusting for the forecast deficit of the HI fund shows that the

maximum surplus of the combined OASDI and HI trust funds in 2005 will amount to only $50 billion in 1988 dollars. This amount equals less than 5 percent of current Federal spending.

TABLE 2–5.—*Unified Budget Impact of Projected OASDI and HI Surpluses (Excluding Interest), Selected Years, 1988–2065*

[Billions of dollars]

Year	Current dollars			1988 dollars		
	Total	OASDI	HI	Total	OASDI	HI
1988	40	32	8	40	32	8
2005	98	145	−47	50	74	−24
2025	−804	−329	−475	−187	−76	−110
2045	−3,544	−1,544	−2,000	−375	−163	−212
2065	−11,328	−5,218	−6,110	−547	−252	−295

Source: Department of the Treasury, based on Alternative II-B series in the *1988 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* and data from the Social Security Administration.

These projections suggest that the windfall of funding coming from the social security trust funds' buildup will not constitute a significant increase in purchasing power to finance other government programs. In addition, as Table 2–5 shows, the surpluses in the trust funds are projected to give way to large deficits later in the 21st century, as the population ages and payments for social security beneficiaries grow rapidly. By the year 2065 the deficit in the OASDI and HI trust funds is projected to be $547 billion in 1988 dollars, an amount representing one-half of total 1988 Federal spending.

As the number of retirees grows through the 21st century, the social security trust funds will move into deficit and the Treasury will have to raise cash to pay out the interest on the trust funds' securities. As the proportion of retirees to workers increases, larger portions of both GNP and Federal revenues will have to be allocated to pay social security pension and health benefits. Taxable resources will be needed to finance those benefits; fiscal policies must encourage real increases in capital formation that will create those resources in the future.

A fiscal policy that encourages both private saving and private investment complemented by a reduction of the Federal deficit through elimination of wasteful expenditures will act to increase capital formation. The prospect of the buildup of the social security trust funds should therefore involve no significant change in fiscal policy. The buildup itself will decrease government dissaving and thereby temporarily increase the availability of funds for private investment. Increasing tax rates to increase government saving could undo the effects of tax reform on incentives to invest, and thereby do much to discourage private capital formation. If increases in tax rates to en-

courage government saving discourage sufficient private capital formation, they will be self-defeating.

Economists generally agree that saving must be encouraged to increase the tax base to fund future social security benefits. Disagreements arise about the best way to accomplish these objectives. The view of this Administration is that a consistent long-term fiscal policy designed to keep marginal tax rates low and provide incentives for work effort, saving, and investment remains the best way to encourage future capital formation. The growing real social security trust funds' surplus should not be used as an excuse to expand Federal Government outlays.

Social security pension benefits and finance are matters with which the Nation must grapple in the future as the population ages and the proportion of retirees to workers continues to increase in the 21st century. Retirees will consume growing portions of national output. Unless the elderly are encouraged to remain in the labor force as productive workers, or the real level of the social security pension benefits is cut, the best way to finance the consumption of future retirees—without devoting the major portion of the Federal budget to that end—is to encourage saving and investment now to increase taxable real income in the future.

INSTITUTIONAL CHANGE TO CONTROL FEDERAL OUTLAYS TO REDUCE THE DEFICIT

Mechanisms to curb spending increases are a key component in a fiscal policy designed to bring Federal outlays in line with a tax burden of no more than 20 percent of GNP. Gramm-Rudman-Hollings provides a framework for reducing the deficit through 1993. Over the long term, however, institutional changes in the budgeting process might be desirable to control the growth of government outlays.

Some economists have proposed dividing the current unified budget into an operating budget and a capital budget. The Federal budget now presents a comprehensive statement of anticipated cash outlays and cash receipts lumping together consumption and investment outlays for the current fiscal year. Separating capital expenditures from operating expenditures could more clearly link operating receipts with operating outlays, which would, in turn, more clearly identify the operating deficit or surplus of government. A capital budget would also link investment outlays with borrowing and provide a basis for linking payment for government debt-financed investments with taxes on future taxpayers. Further, a capital budget would distinguish borrowing used to finance capital investments from borrowing to finance current consumption. Capital budgeting could pro-

vide information necessary to plan an increase in the investment component of government spending.

Unfortunately, problems involved in actually implementing a capital budget for the Federal Government more than offset its possible advantages. A capital budget would significantly reduce the constraints on total government spending and make it more difficult for the Administration and the Congress to formulate fiscal policy. Total Federal spending would no longer be shown; the budget would no longer provide a comprehensive comparison of total Federal spending for different programs and purposes. Because a capital budget would record depreciation in place of capital expenditures, only a small fraction of the cost of a proposed capital purchase would be apparent to policymakers deciding about the overall level and composition of government spending. This would greatly increase the incentive for the government to purchase capital goods.

Conceptual and practical measurement problems also arise. Rules would be needed for depreciating Federal assets, for valuing government assets and measuring its liabilities, and for identifying types of outlays that constitute capital formation, e.g., whether to include in the capital budget education and other programs that build human capital. Care would have to be taken to avoid losing control over government spending, deficits, and debt by categorizing current programs as capital expenditures, by using inaccurate depreciation rates, or by introducing costly programs with small, initial outlays. Thus, a capital budget could lead to renewed increases in the growth of spending. For these reasons, the Administration has opposed proposals for a separate capital budget.

The Administration favors adoption of a line-item veto. A line-item veto would enable the President to veto individual items in appropriations bills, subject to the current provisions for overriding a veto of any bill. Effective use of a line-item veto would give future Presidents more flexibility in pursuing fiscal policies to encourage capital formation. The President could selectively veto wasteful new government spending programs that increase consumption without sending an entire appropriation bill back to the Congress. The line-item veto would discourage the Congress from enacting wasteful spending programs that are not in the national interest. Such a provision could forestall special-interest programs that benefit a few at the expense of many taxpayers.

A balanced budget and tax limitation amendment to the Constitution offers a comprehensive form of restraint to control spending. This approach would change the rules under which decisions are made to borrow or to increase Federal outlays and receipts relative to GNP. One proposal would require that total outlays not exceed

total receipts unless three-fifths of the whole number of both Houses of Congress votes to break that rule. Other approaches seek to limit the growth in Federal outlays to the growth in real GNP. An amendment could place similar restraints on the national debt, prohibiting increases unless a substantial portion of the Congress voted in favor. These limitations would help to establish an institutional framework that creates incentives for limiting Federal spending. Constitutional limitation would require political compromise to cut the rate of growth of Federal outlays and to keep spending in line with the public's willingness to pay taxes. Further, constitutional limitation would help to change the way in which decisions are made. Under a constitutional limit, everyone agrees to limit demands on government in exchange for a commitment that others will be bound by the same limit. Proposals for increased spending would be compared with current spending, and policymakers would have to pay increased attention to the merits of alternative programs. Constitutional spending limitation would bring fiscal discipline.

CONCLUSION

The challenge of the future is to enact reforms that adjust institutions and incentives to reduce the growth of Federal outlays and increase both public and private investment. By doing so the Federal budget deficit can be reduced and the government sector can make a greater contribution to increasing the Nation's rate of capital formation and improving its standard of living.

The Nation must avoid the temptation to increase marginal tax rates to reduce the Federal budget deficit. To raise marginal tax rates on labor and capital income would adversely affect the incentives to work and invest that are the foundation for improved future living standards. The reduction of the Federal deficit through reducing spending represents an important component in a policy to increase national saving. However, deficit reduction must not come at the expense of incentives for private capital formation.

CHAPTER 3

Growth and Evolution of International Capital Markets

IN THE SUMMER OF 1944, representatives of the Allied Powers convened at Bretton Woods for an ambitious purpose: to plan a financial system for the postwar world. In the 44 years since that meeting in New Hampshire, world trade and capital flows have changed course dramatically. A revolution in currency exchange markets occurred. By the end of the 1970s, vast changes in national economic conditions and policies had almost sundered international economic relations. In the 1980s the current Administration took stock. The policy changes it proposed not only revitalized the U.S. economy, but also brought the Nation renewed respect in the international arena.

The United States has played a central role in the evolution of international capital markets throughout the postwar period. Immediately following the war, loans, aid, and direct investment flowed from the United States to assist the ravaged economies of Europe and Asia. At the same time, the United States assumed a leading role in the system of pegged but adjustable exchange rates designed at Bretton Woods. By providing this leadership and by fostering a stable worldwide market system and encouraging the opening of markets in goods and assets, the United States reinvigorated the world economy.

The reward for these efforts has been enhanced opportunities for the United States. World output and trade have flourished. The successful recovery of the war-torn economies and the entry of many newly industrializing and developing nations into the international arena have meant a revision in the role of the U.S. economy in the world. Yet the United States remains a world leader, and U.S. policies of free markets, low tax rates, low inflation, and reduced government regulation have resulted in a robust, productive economy that stands as an example for the rest of the world.

The road to the 1980s has been replete with lessons about international trade, capital, and currency markets. Beginning in the 1960s divergences in sovereign policies affecting domestic inflation and output growth eventually led to results inconsistent with the exchange-rate regime initiated at Bretton Woods—a system of pegged

but adjustable exchange rates. In the early 1970s the flaws in the Bretton Woods system proved insurmountable and the industrial world adopted a regime of floating exchange rates in its stead. Subsequent large swings in the value of the dollar have led to renewed debate regarding international monetary arrangements. The value lost by the dollar in the 1970s was more than made up, and then lost again, during the 1980s. Swings in the international cost competitiveness of U.S. manufacturers mirrored those of the dollar's real value in the 1980s. Yet the flexible exchange-rate regime has weathered without crisis three recessions in the United States, sizable oil shocks and even war between two major oil-producing nations, rapid increases and decreases in inflation, and most recently a significant shift in the international pattern of trade balances. Although flexible exchange rates exhibit substantial short-run variability, they provide efficient and timely signals to markets and governments when actions and policies go awry.

During the 1970s the traditional trade and current account surpluses of the United States, correlatives of net U.S. lending to the rest of the world, gave way to intermittent external deficits. Since 1982 the external deficits have become persistent and amplified. Trade and current account deficits represent important channels through which an economy can acquire the resources needed to take advantage of profitable investment opportunities. They can also reflect current consumption out of previous saving. Trade deficits can arise when an economy's households and firms react to distorted incentives to consume today by borrowing from abroad at the expense of future generations. Whether the trade deficits of the 1980s signal promise or trouble for the current and future well-being of the United States is an important and difficult question.

Between 1918 and the mid-1970s, and particularly in the period following World War II, the United States built up large international asset holdings as the counterpart to its annual current account surpluses. By the 1980s that pattern of international capital flows had changed. The gradual acquisition of U.S. assets by foreigners at a faster rate than the United States has acquired similar assets abroad has resulted in a reversal in the U.S. net foreign asset position as officially measured. According to official estimates, since 1985 the total value of foreign holdings of assets in the United States in the form of direct investments, common stock, and bonds of all kinds has exceeded the total value of holdings by U.S. citizens of similar assets abroad. This imbalance is often described as the net debtor position of the United States, even though many of these assets involve equity claims rather than debt. Although difficulties of measurement cast some doubt on the accuracy of official estimates, there is little doubt

that the net international asset position of the United States has decreased in the 1980s.

The consequences of the United States becoming a net debtor have been hotly debated. Unlike the troubles of many indebted developing nations, the ability of U.S. citizens and the U.S. Government to maintain their contractual obligations is not a concern. The United States continues to have the largest aggregate wealth in the world, and its creation of new wealth remains strong. Nevertheless, some have argued that its current financial position increases the temptation for U.S. policymakers to induce an inflation, reducing the real value to foreigners of their dollar-denominated claims. Others argue that it erodes U.S. leadership in the world economy. Neither development is a necessary consequence of a net debtor position. By adhering consistently to this Administration's policies of noninflationary growth, the United States can continue as a world leader, and the dollar can remain a reliable and widely held currency.

During the 1980s many developing countries have experienced grave difficulties in managing their external debts. The problems of debtor nations have frequently been compounded by high-tax, inflationary, and confiscatory policies that have handicapped their domestic economies, reduced trade and investment, and led to capital flight. In addition, these policies have created insufficient incentives for debtors and creditors to reach voluntary, market-oriented agreements. Private and official creditors as well as international agencies have increasingly devoted resources to renegotiating the terms of existing debt and providing debt relief appropriate to the individual borrower. By maintaining incentives conducive to voluntary, country-specific negotiations between creditors and debtors and continuing to support domestic economic reform, the United States can encourage the design of innovative approaches that resolve the problem.

The issues of the international economy involve policy choices and the need to develop a framework to produce growth in world living standards for the coming years. Stable and growing economies require smoothly functioning financial markets. It is to that issue that this chapter turns first.

THE BEHAVIOR OF EXCHANGE RATES

Since the inception of floating exchange rates in the early 1970s, the nominal values of many currencies have swung widely. As indicated by the U.S. Federal Reserve Board staff index, between the beginning of 1970 and the end of 1979 the dollar declined 29 percent in value against a trade-weighted basket of the currencies of 10 major industrial countries. The deutsche mark rose 78 percent on a trade-

weighted basis during this period, while the currencies of many other nations also moved substantially relative to those of their trading partners. In the third quarter of 1980 the dollar turned around, rising 83 percent in value until the first quarter of 1985. Since then it has again declined, returning approximately to its 1981 level.

These dramatic changes have been the subject of much discussion and investigation. Major issues include the causes of the swings, their implications for the U.S. competitive position in world markets, their effects on trade balances, and the question of whether the regime of flexible exchange rates has well served the increasingly complex system of international trade in goods and assets.

THE PURCHASING POWER OF THE DOLLAR

A rise in the nominal value of the dollar does not necessarily mean that the dollar can buy more foreign goods. For example, if the dollar's rise is accompanied by a foreign inflation of equal magnitude, each dollar buys more of the foreign currency but no more of the foreign goods than before. Alternatively, if the dollar's appreciation is matched by a decline in the U.S. price level while the foreign price level remains unchanged, the rise in the value of the dollar signals an increased power of the dollar to purchase foreign goods, but not relative to the increased power of the dollar to purchase U.S. goods.

A broad measure of the dollar's relative purchasing power abroad can be derived from dividing the number of foreign goods that a dollar can buy by the number of U.S. goods that a dollar can buy, or equivalently by dividing the product of the U.S. price level times the foreign exchange value of the dollar by the foreign price level. A rise in that measure, called the real or inflation-adjusted exchange rate, would signal that a dollar could purchase more foreign goods relative to domestic goods than before. Alternatively, it would imply either that foreign inflation had not proceeded as quickly as the dollar's value rose, or that the pace of U.S. inflation exceeded the appreciation of the dollar. In either case, the real value of the dollar would rise—that is, the dollar's purchasing power abroad relative to its purchasing power in the United States would increase. Real exchange rates can change for a variety of reasons, including country-specific changes in productivity, thrift, taxation, and the efficient use of resources.

Chart 3–1 shows indexes of the nominal and real exchange rates of the U.S. dollar in terms of trade-weighted baskets of foreign currencies and consumer price indexes of 10 major industrial countries. The real value of the dollar has closely paralleled its nominal value, suggesting that, at least in the short run, the forces giving rise to exchange-rate movements are not matched by offsetting changes in in-

flation, either here or abroad. For example, the dollar's 20 percent decline from the second quarter of 1976 until the third quarter of 1980 was accompanied by a 16 percent decline in its real value, or purchasing power.

Chart 3-1

Nominal and Real Exchange Rates

¹Multilateral trade-weighted value of the dollar against the currencies of the other G-10 countries plus Switzerland.

²Product of the nominal exchange rate times the U.S. consumer price index divided by trade-weighted consumer prices of the other G-10 countries plus Switzerland.

Source: Board of Governors of the Federal Reserve System.

Although exchange-rate movements have not tended to be perfectly offset by changes in domestic or foreign price levels during the recent floating rate experience, exchange rates do respond to the relative price changes of the countries in question. There is no reason for bilateral exchange rates to reflect exactly all price level movements. The broad pattern of relative inflation across countries tends, however, to influence the long-run behavior of exchange rates.

Chart 3–2 shows indexes of relative price levels and nominal bilateral exchange rates for three major U.S. trading partners: Japan, West Germany, and the United Kingdom. In each case, relative price levels are measured by an index of the ratio of the implicit deflator of foreign gross domestic product (GDP) or gross national product (GNP) to the U.S. price level. The exchange rates and price ratios for

each individual country are indexed to equal each other in 1973, the starting point of the flexible exchange-rate regime. Although the units on the vertical axis are arbitrary, upward (downward) movements of the price ratios reflect rapid (slow) foreign inflations relative to that of the United States. Upward movements of the exchange rate reflect increases in the nominal value of the dollar, and vice versa.

The chart shows that, although exchange rates are more volatile than relative price levels, exchange rates tend in the longer run to fluctuate roughly around the ratio of the price levels. Shifts toward relatively rapid inflation in the United States raise U.S. prices relative to prices abroad and tend to be accompanied by a declining dollar. Slowdowns in U.S. inflation rates relative to those abroad tend to be met with dollar appreciation, as are periods of relatively rapid inflation abroad.

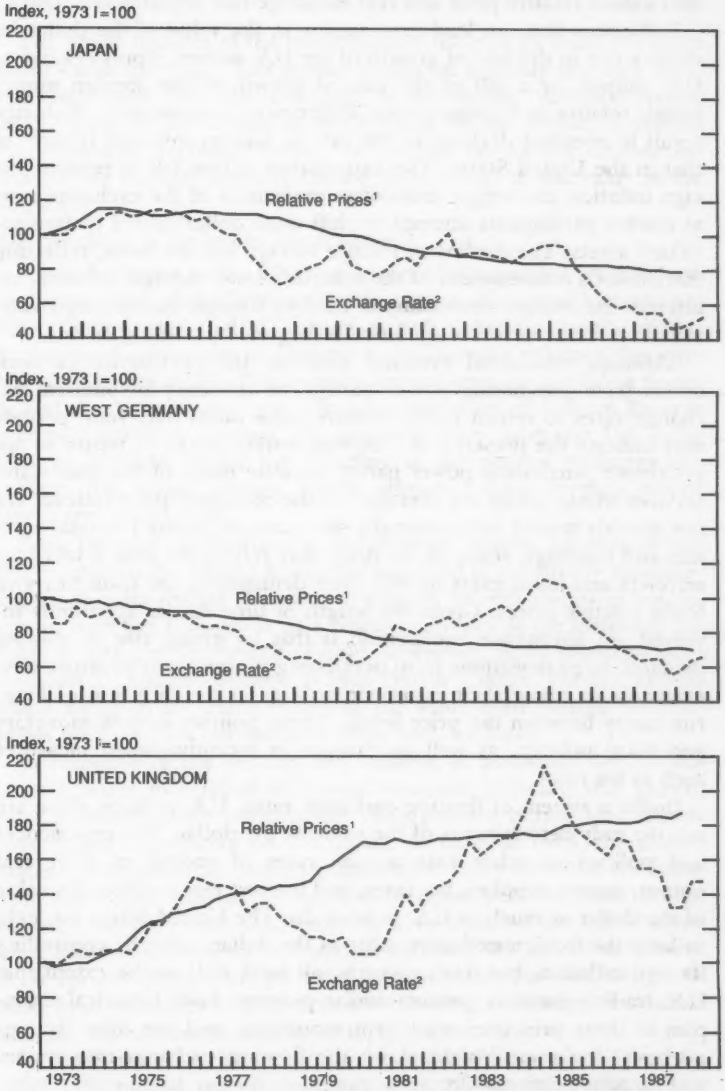
There is no reason to expect bilateral purchasing power parity—that is, to expect exchange rates and the ratios of the price levels of the paired countries to move together at all times. As can be seen in the chart, the relationship is far from exact. In the short run, ratios of price levels may not determine the exchange rate. This lack of concordance may be partly because a substantial share of goods and services is not internationally traded. In addition, it may be partly because exchange rates, as the relative prices of two assets, reflect the market's expectations about future relative inflations more rapidly than current price levels of goods and services respond to these pressures. The pronounced short-run deviations from purchasing power parity between the United States and its trading partners correspond to changes in the real exchange rate, which reflect a variety of influences.

Changes in the real value of the dollar have no single cause. Changes in relative productivity, in relative thrift, efficiency, and risk make domestic assets more or less valuable. Changes in tax rates also alter the after-tax returns on assets. Market participants compare the expected, risk-adjusted after-tax real returns available all over the world. If expected risk-adjusted real returns rise abroad relative to the expected returns at home, demand for foreign assets increases until the expected real returns reach equality. The shifting of demand from one country's assets to another's entails shifts in the demands for the domestic and foreign currencies used to purchase the assets. The exchange rate adjusts to these changes in demand as in any other open market.

Any government policies that influence the price level, growth rates, or interest rates will affect exchange rates. Incentive-based fiscal policy, which affects a country's standard of living or alters the incentive to invest, will be reflected in exchange-rate movements.

Chart 3-2

Exchange Rates and Relative Prices



¹Ratio of GNP implicit price deflator for Japan and West Germany (GDP implicit price deflator for United Kingdom) to U.S. GNP implicit price deflator.

²Foreign exchange value of the dollar.

Sources: Department of Commerce, International Monetary Fund, and Council of Economic Advisers.

Moreover, changes in government purchases relative to GNP may also induce relative price and real exchange-rate adjustments.

Influences that can lead to a decline in the value of the dollar include a rise in the rate of growth of the U.S. money supply relative to U.S. output, or a fall in the rate of growth of the foreign money supply relative to foreign output. Differences in these rates of change result in eventual declines in the rate of foreign inflation relative to that in the United States. The expectation of that fall in relative foreign inflation can trigger immediate movement of the exchange rate, as market participants attempt to shift from dollar-valued to foreign-valued assets. The decline in relative foreign interest rates, reflecting the market's reassessment of the relatively lower foreign inflation, reinforces the relative desirability of holding foreign currency by reducing the interest earned abroad that is forgone by holding money.

Although substantial evidence confirms the persistence of deviations from purchasing power parity, the tendency of bilateral exchange rates to return to the relative price ratios over long periods may indicate the presence of long-run market forces to return to approximate purchasing power parity. Because many of the goods and services whose prices are averaged in the consumer price indexes are not directly traded internationally (for example, many personal services and housing), some of the delay may reflect the time it takes for travelers and immigrants to shift their demands to the countries with lower relative prices. Given the length of time that is apparently involved, an alternative explanation is that by giving rise to shifting demand, large deviations from purchasing power parity pressure governments to revise their economic policies in the direction of long-run parity between the price levels. These policies include monetary and fiscal policies, as well as changes in incentive-based measures such as tax rates.

Under a system of floating exchange rates, U.S. policies alone are not the only determinants of the value of the dollar. The experiences and policies of other nations—the rates of growth of their real output, money supplies, tax rates, and interest rates—affect the value of the dollar as much as U.S. policies do. The United States can help to keep the foreign exchange value of the dollar stable by controlling its own inflation, but this approach will work only to the extent that U.S. trading partners pursue similar policies. Four historical examples of these principles are worth examining, and can offer the opportunity for some insight about the floating exchange-rate system and exchange-rate stability.

PEGGED AND FLEXIBLE EXCHANGE RATES: RECENT HISTORICAL EXPERIENCES

The broad features of the experience of the past 20 years tell much about exchange rates. This period breaks up logically into two separate subperiods. The first, beginning in the middle 1960s and ending in 1973, covers the demise of the Bretton Woods regime of pegged but adjustable exchange rates. The second covers the flexible exchange-rate regime, focusing on the wide swings in the value of the dollar.

The Foundering of the Bretton Woods System

Toward the end of the 1960s, pressures built that led ultimately to the breakdown of the Bretton Woods regime of pegged but adjustable exchange rates. In 1967, money growth picked up sharply relative to output. As discussed in Chapter 1, the increase reflected the combined pressures of U.S. Government expenditure for the Great Society and the Vietnam war and the operating rules of Federal Reserve policy—particularly interest rate targeting. The result was U.S. inflation. In addition, under the structure of the pegged exchange-rate regime, the excess money flowed abroad, raising foreign money stocks and price levels.

Both because of the rules of the Bretton Woods Agreement and the reputation the United States had acquired in steadfastly maintaining those rules during the postwar period, foreign countries continued to treat the U.S. dollar as a reserve currency at the historical par value of $35 per troy ounce of gold. Moreover, many countries were reluctant to see the Bretton Woods system change. Foreign central banks accepted the extra dollars at par value even though the fractional gold reserves behind each dollar had declined.

In response to the ensuing U.S. balance of payments deficits, the United States intensified its capital controls. Differing real growth rates throughout the world in the early postwar period had already contributed to pressure on the dollar. As early as 1963, the United States had imposed the interest equalization tax on securities and long-term bank loans sold in U.S. markets by developed countries (except Canada). In 1965 additional controls were imposed on capital flows from banks and financial institutions, and in 1968, the United States made mandatory controls on direct investment abroad that had previously been voluntary. These measures distorted investment incentives and did not address the source of the problem.

In 1968 the U.S. balance of payments deficit worsened and by 1969 U.S. official reserve holdings were substantially reduced. As citizens of foreign countries turned in their dollars to their own cen-

tral banks, the foreign countries further increased their own money supplies, increasing inflation overseas. International pressure on the United States to change its monetary policy built up. The threat to tender the dollars against the insufficient supply of U.S. gold made the pressure credible. On August 15, 1971, President Nixon suspended the right of foreign central banks to convert the dollar into gold. The system established at Bretton Woods ended.

In an effort to stem the continued domestic inflation and capital outflows without addressing the rapid growth in money relative to output that was their fundamental cause, President Nixon simultaneously imposed wage and price controls and a 10 percent import surcharge when he suspended gold convertibility. These stopgap measures decreased market efficiency by distorting relative prices, and further contributed to the difficulty of economic adjustment. New exchange-rate parities were set at levels that were determined by the Smithsonian Agreement in December 1971. The plunge in the dollar's value halted, but that arrangement lasted little more than a year. By then it had become abundantly clear that the U.S. balance of payments deficits were attributable to U.S. economic policies that were fundamentally inconsistent with the fixed exchange-rate system and the maintenance of low inflation. In March 1973 the monetary authorities of the major industrial nations decided to let their currencies float freely against the dollar, either individually or in currency groups such as the European "snake." Between March and September 1973, the dollar fell by 5 percent on a trade-weighted basis, reflecting in part the accumulated pressures from 6 years of excessive growth of money relative to output.

The Bretton Woods system went far in the postwar years in the direction of its goals of both price and exchange-rate stability. In the course of time, however, it achieved neither aim. The system relied on the conduct of U.S. monetary policy, but provided insufficient incentive to carry out policies consistent with the maintenance of the goals of the regime. When the United States failed to conduct its monetary policy in a manner consistent with price stability, while several key currency countries were reluctant to accept inflation rates commensurate with continued exchange-rate stability, the system was unable to withstand the pressures that built up. Given the conduct of U.S. monetary policy, the inherent design of the system forced foreigners to choose between price and exchange-rate stability. They chose to let exchange rates be determined in international markets.

The Bretton Woods system was one of pegged but adjustable exchange rates. From its inception it was subject to currency revaluations and devaluations. In the 1960s the system came to be regarded as crisis prone, reflecting the increasing frequency and magnitude

of exchange-rate changes as countries adopted and persisted in uncoordinated economic policies. Changes in the rate of growth of one country's money supply relative to its output, unmatched by corresponding changes abroad, caused excess capital to flow out of the country that incurred relatively rapid monetary growth. When these changes were not reversed, they resulted either in a balance of payments crisis, with a decline in the international reserves held by the authorities of the country inducing the relatively rapid monetary growth, or in a currency devaluation to staunch that decline.

The Flexible Exchange-Rate Regime

Under a completely flexible exchange-rate regime, changes in the international reserve holdings of central banks are obviated, because a currency's value adjusts to the forces of supply and demand in international markets. The chief distinction between flexible and fixed exchange-rate systems lies in the institutional tradeoff between exchange-rate movements and international reserve movements. What matters most is not the system, but the stock of money relative to domestic output. The money stock changes as a result of monetary policy, and output may change as a result of such real factors as changes in productivity or demographic changes affecting thrift or labor force participation. These are the main determinants of the expected course of the exchange rate and the long-term movements of the price level.

Under a flexible exchange-rate system the monetary authorities may intervene to prevent the currency from declining in value. In order to succeed, they must necessarily stabilize the rate of money growth relative to the growth of output. If intervention reduces central bank holdings of both international reserves and money in order to change market anticipations about the thrust of monetary policy, a central bank can change the exchange rate. The essential element is a credible change in the growth of money relative to output. In contrast, sterilized exchange-market intervention, which changes the mix of international reserves and domestic assets held by central banks without changing the stocks of money relative to output at home and abroad, has no lasting effect on exchange rates. This process changes the distribution of assets in government and private portfolios. The main effect is to change who bears the risk of fluctuations in foreign or domestic asset prices.

Three changes in the value of the dollar characterized the experience of flexible exchange rates: the decline in the dollar's value during the middle to late 1970s, its appreciation until March 1985, and its subsequent depreciation. The dollar depreciation in the second half of the 1970s reflected the continuation of the rapid U.S. monetary growth relative to output begun in the late 1960s, com-

pounded by increasing reliance on policies that attempted to fine-tune the economy. The stop-go pattern of policy became more pronounced in early 1973, when the rate of growth of M2 fell sharply. The oil price rise later that year was met with direct controls on the domestic price of oil. These actions ultimately produced a slowing of the rate of price increase and a halt to the dollar's decline, but they exacerbated the economy's difficulty in adjusting to the reduction in income implied by the change in international oil prices. The ensuing recession of 1974–75 led to increasing efforts to boost employment and output by expanding monetary growth and reducing taxes. As monetary growth in the United States accelerated in an effort to lean against the recessionary tide, U.S. inflation soared. At the same time, several major U.S. trading partners, most notably West Germany and Japan, allowed domestic oil prices to adjust to world levels and consciously restrained their money supplies to focus on the longer run. The value of the dollar plummeted, dropping 16 percent between the first quarters of 1976 and 1980, the period of the highest postwar U.S. inflation.

During this period the Carter Administration had proposed a policy known as the "locomotive theory." Foreign governments were expected to adopt monetary and fiscal policies consistent with the expansionary policies of the United States in an effort to increase aggregate demand. Many foreign countries, fearing inflation, were reluctant to stimulate their economies in this manner. The episode ended with continued domestic inflation and a decline in the value of the dollar without achieving the desired outcome.

When in 1980 Ronald Reagan cast his pre-election support to the new regime of monetary control, the expectation of pronounced reduction in inflation resulted in a turnaround in the value of the dollar. The new U.S. tax incentives introduced in the Economic Recovery Tax Act of 1981 (ERTA) encouraged domestic investment and capital accumulation and raised expected after-tax real rates of return. Productivity increases in the United States resulted in an appreciation of the real value of the dollar, as the dollar's purchasing power increased relative to that of the currencies of many U.S. trading partners. Capital inflows to the United States responded with renewed vigor to the higher anticipated U.S. real after-tax rates of return. These higher expected real rates of return were reflected in real and market interest rates. The shifting of assets toward the United States reinforced the rise in the nominal exchange rate begun in 1980.

The resulting unprecedented rise in the dollar's value, as can be seen in Charts 3–1 and 3–2, continued until the first quarter of 1985; that is, throughout approximately the same period that the U.S. eco-

nomic recovery, revised growth incentives, monetary restraint, and reduced inflation led similar advances abroad. During this period, the dollar rose in value against all major U.S. industrial trading partners, including the United Kingdom, whose economic recovery began earlier but whose reduction in inflation was unable to match this Nation's, and West Germany, which continued to exercise its traditional monetary restraint but whose economic growth rate was usually below that of the United States.

In late 1984 U.S. monetary policy eased markedly. At the same time, widespread anti-inflation policies abroad accelerated. In March 1985 the dollar began to decline. In the 7 months between the dollar's peak and the Plaza Agreement of September 1985, which announced the intentions of the G-5 countries (France, Japan, the United Kingdom, the United States, and West Germany) to engage in coordinated economic policies and to regard some further dollar decline as appropriate, the trade-weighted value of the dollar declined 12 percent. The U.S. monetary expansion continued through the end of 1986, contributing to the continued decline in the dollar's value.

Changes in tax rates at home and abroad reinforced the decline in the dollar's value. Foreign marginal tax rates were lowered as other nations began to emulate the successful U.S. policies of the early 1980s. At the same time, the Tax Reform Act of 1986 reduced the relative incentive of U.S. citizens to invest in the United States by raising the effective tax rate on capital investments. As discussed in Chapter 2, it also provided more uniform treatment of alternative types of investment purchases. The elimination of the deductibility of nonmortgage interest on personal income tax returns encouraged some shifting of private spending away from consumer durables and toward business investment. Notwithstanding these mitigating forces, the real value of the dollar fell until early 1988.

Compared with the Bretton Woods system of pegged but adjustable exchange rates, the system of flexible exchange rates has functioned smoothly. The upheavals of the 1970s and 1980s, including two large oil price shocks, sharp changes in the relative prices of other commodities, and rapid relative movements in the patterns of international monetary and output growths of the period, were registered in wide swings in exchange rates. Crises in international reserves and speculative attacks in anticipation of dollar devaluations were nevertheless avoided. The market's depreciation of the dollar during the 1970s was a symptom of the rapid domestic inflation. As discussed in Chapter 1, it was also a symptom of the market's uncertainty about the future stance of U.S. monetary policy, given the stop-go reactions of the Federal Reserve to the events of the period. During the 1980s the market's assessment of real factors, such as

changes in relative output growth, productivity, and marginal tax rates, have played a dominant part in determining exchange rates.

A frequent comment is that real exchange rates have been more variable in the fluctuating exchange-rate period than under the Bretton Woods regime. Some observers interpret the increased variability as evidence that the international economy has become less stable. This conclusion is unwarranted. Changes in real exchange rates are the means by which the economy adjusts to changes affecting demand and output. Increased variability of real exchange rates is entirely consistent with greater economic stability and reduced fluctuations in output, employment, and the price level. Studies of variability in output and prices under fixed and flexible exchange rates suggest that despite the oil shocks, inflation, and then disinflation of the 1970s and 1980s, leading countries have reduced variability of prices and output in the flexible exchange-rate era.

THE DOLLAR AND COMPETITIVENESS

Wide swings in the value of the dollar in excess of U.S. and foreign inflation differentials have had pronounced effects on the cost competitiveness of American manufacturers. Dollar depreciation during the late 1970s raised the dollar price of imports relative to other domestic prices and temporarily shielded many trade-sensitive industries from foreign competition. The 10 percent real depreciation of the dollar between the first quarter of 1977 and the second quarter of 1980 allowed some manufacturing industries to remain temporarily profitable despite substantial increases in real wages and relatively slow productivity growth. This temporary insulation from foreign competition that dollar depreciation provided left many trade-sensitive industries unprepared to deal with heightened competition in the 1980s.

The unprecedented surge in the dollar's value during the first half of this decade resulted in a marked loss in the international cost competitiveness of U.S. industries. This loss occurred because foreign exporters to the United States could—and did—charge a lower dollar price to cover the same level of home currency costs when the dollar appreciated. Between the second quarter of 1980 and the first quarter of 1985, a period when the inflation-adjusted dollar price of a trade-weighted basket of currencies of 10 major industrial countries fell by some 37 percent, the price of nonpetroleum imports relative to U.S. producer prices declined by 18 percent. Although the aggregate data appear to suggest that foreign producers took advantage of the surge in the dollar to boost both sales and profits, more can be learned by examining the dollar prices of individual categories of imported goods.

Table 3–1 shows price indexes for several categories of U.S. nonpetroleum imports divided by the producer price index for finished goods. The indexes are relative to a base of 100 in the second quarter of 1980. Between the second quarter of 1980 and the first quarter of 1985, the dollar price of industrial supplies and materials imports, relative to producer prices for finished goods, declined by 28 percent, while the relative prices of capital goods (excluding autos) and consumer durables imports declined by 26 and 19 percent, respectively. By contrast, the relative price of consumer nondurables imports fell by only 10 percent, while the relative price of auto imports rose by 11 percent. This divergence in relative import prices reflects several factors, including the weakness in world commodity prices during this period, technological advance in the production of capital goods, and, as discussed in Chapter 4, the imposition of nontariff barriers in the U.S. auto and textile industries. Apart from the impact of nontariff barriers on the dollar prices of autos and textiles, however, it would appear that much of the real appreciation of the dollar during the first half of this decade was in fact passed through to the dollar prices of imports.

TABLE 3–1.—*The Dollar and Import Prices Since 1980*

[1980 II = 100]

Item	1985 I	1988 III
Dollar price of foreign exchange[1]	63	84
Nonpetroleum import prices[2]	82	97
Industrial supplies and materials	72	83
Capital goods except automobiles	74	92
Consumer durables	81	99
Consumer nondurables	90	109
Automobiles	111	133

[1] Dollar price of the trade-weighted currencies of the foreign G-10 countries plus Switzerland adjusted for changes in consumer prices in the foreign countries and the United States.
[2] Ratio of the GNP fixed-weighted price index to the producer price index for finished goods.
Sources: Department of Commerce, Department of Labor, International Monetary Fund, and Council of Economic Advisers.

Because of the passthrough of the dollar's real appreciation to dollar import prices, U.S. manufacturers lost sales to their foreign competitors. This loss happened despite the fact that unit labor costs were rising more slowly in the United States than abroad, the result of exceptional productivity gains and modest wage increases in U.S. manufacturing. Specifically, unit labor costs in U.S. manufacturing rose only 9 percent during the first half of this decade (and have actually fallen since 1982) while, in national currency terms, average unit costs in the nine largest foreign industrial countries rose nearly 18 percent. When measured in dollars, however, unit labor costs in

these nine other industrial economies fell just over 13 percent. Instead of experiencing a solid 9 (18−9) percent improvement in international cost competitiveness between 1980 and 1985, the surge in the value of the dollar brought about a 22 (−13−9) percent decline in relative cost competitiveness of U.S. manufacturers, measured at current exchange rates. This decline was in line with the relative price declines of capital goods and consumer durables.

The real depreciation of the dollar that has occurred since March 1985 has, in conjunction with continued rapid productivity growth and modest wage increases, restored the international cost competitiveness of many U.S. manufacturers. In particular, relative unit labor costs measured in dollar terms are now lower than they were in 1980. Although dollar import prices responded with a longer-than-expected lag to the real depreciation of the dollar—actually continuing to fall on average until the fourth quarter of 1986—manufacturing output and exports rose in 1987 and 1988 as higher prices for foreign goods shifted domestic and foreign demand toward U.S. goods.

As can be seen in the table, between the first quarter of 1985 and the third quarter of 1988 the inflation-adjusted dollar price of foreign exchange has risen 33 percent—that is, to 84 percent of its base in the second quarter of 1980. The dollar price of imported capital goods relative to the producer price index for finished goods rose 24 percent, reaching a level last recorded in the first quarter of 1981. Similarly, the relative dollar price of imported consumer durables (excluding autos) has jumped 22 percent, and is now about the same as in 1980. Reflecting the weaker dollar and, perhaps, the voluntary export restraints on Japanese cars and the quotas on textile imports, the relative dollar prices of imported automobiles and consumer nondurables have soared, and are now respectively 33 and 9 percent higher than in 1980. By contrast, the relative dollar price of industrial supplies and materials has risen 15 percent since the first quarter of 1985, reflecting the modest but incomplete recovery in commodity prices that has occurred in recent years. In short, the relative dollar prices of nonpetroleum imports have risen substantially in response to the real depreciation of the dollar and, excepting industrial supplies and materials, are currently near or above their levels in the second quarter of 1980.

To summarize, the real appreciation of the dollar, and not sagging productivity growth or other commonly alleged causes, was the primary source of the deterioration of the international cost competitiveness of U.S. manufacturers during the first half of this decade. Moreover, cost competitiveness has been restored for many industries in line with the dollar's depreciation. The jump in dollar import

prices discussed above has had a modest, one-time effect on the price level; but, contrary to the predictions of some commentators, dollar depreciation has not set off another round of accelerating inflation. This effect is not surprising because, in the context of appropriate monetary policy, real exchange-rate changes represent relative price changes that can ultimately change the price level, but not the economy's long-run inflation rate.

These observations do not imply that the United States can, or should, rely solely on exchange-rate movements to improve further its competitive position. Real exchange-rate depreciation can increase competitiveness in the intermediate run by making imports more expensive, but at the cost of slower domestic real income growth than would otherwise result. In contrast, policies to promote more rapid productivity growth should be actively pursued. Faster productivity growth will boost both international competitiveness and real standards of living.

INTERNATIONAL POLICY COORDINATION UNDER FLEXIBLE EXCHANGE RATES

Economic theory and the recent exchange-rate history both suggest that monetary and fiscal policies, through their effects on inflation, inflationary expectations, and real output, are important influences on nominal exchange rates. To achieve a stable value of the dollar requires not only predictable and restrained monetary policy along with sustainable real growth in the United States, but also similar economic conditions abroad. To the extent that wide swings in the value of the dollar are appropriate market responses to changes in these underlying international economic conditions, exchange rates can serve as signals of improved prospects or deepening problems in these underlying factors. Under a fixed exchange-rate regime, data on international reserve flows have to serve this same role. Although exchange rates are not perfect signals, they are generally more informative indicators than quantities, such as reserve flows.

Disturbed by the recent large exchange-rate swings, officials from many countries and other observers have expressed their desire for greater exchange-rate stability. They have sought to find ways to increase the coordination of sovereign policies in order to help stabilize exchange rates. As shown in many studies, however, including those commissioned by the Versailles Economic Summit in 1982, direct sterilized exchange-market intervention has proved to be of limited value in reducing exchange-rate variability.

Some groups of countries have tried an adjustable peg—notably the European Monetary System (EMS), which ties several currencies together but allows some variability within pre-arranged bands. This

system requires either a common monetary policy to keep inflation similar or strict capital controls to limit precipitate intercountry asset flows. Otherwise countries must accept periodic adjustment in their exchange rates. Smaller countries tend to fix their exchange rates to those of larger developed nations. As is evidenced by repeated realignments within the EMS and repeated devaluations of the currencies of some developing nations, an adjustable peg system contains all of the inherent drawbacks of modern fixed exchange-rate regimes. The inability to enforce compatible sovereign monetary and fiscal policies is a key deficiency of these systems.

A promising approach for increasing the stability of exchange rates focuses on the coordination of domestic policies toward inflation and economic growth. Under this approach, the leading industrial countries adopt mutually compatible economic policies to achieve sustained growth with low inflation. Direct exchange-rate coordination is not required to achieve these principal benefits.

If fully enacted, plans for a single internal market in the European Community by 1992 could contribute to increased stability of exchange rates within Europe by encouraging international competition, which will help to keep domestic policies in line across countries. Some European leaders have suggested that the 1992 reforms be followed by reforms leading toward the use of a single European currency. If widely used in place of existing monies, a common currency would require a unification of monetary policies. A common currency is not necessary, however, to achieve the benefits of the sweeping reductions of economic barriers proposed for Europe in 1992.

No country acting alone can achieve both price and exchange-rate stability. Larger countries that achieve domestic price stability provide a public good: smaller countries can then fix their exchange rates to those of the larger countries and achieve greater price and exchange-rate stability. For the larger countries, disturbances to exchange rates caused by differences in actual or anticipated inflation can also be reduced, and exchange-rate stability can increase. A policy of this kind does not require elaborate control procedures. The benefits can be achieved if each of the major countries adjusts its money growth rate to be consistent with sustained growth at stable prices in its domestic economy.

This arrangement provides the opportunity for countries to choose increased price and exchange-rate stability. Bretton Woods produced this result to a degree and for a time, and the prosperity of the period showed that benefit is to be had. Nevertheless, the inability of the Bretton Woods system to weather the strains of changing sovereign goals suggests that an overarching system of pegged but adjust-

able exchange rates will not serve the world as a whole as well as the current system of free choice in forming exchange-rate arrangements.

Productive policy cooperation among countries includes not only consistent monetary and fiscal policies, but also vigilant reduction of market rigidities and barriers to trade in both goods and financial assets. Recent discussions among developed countries with regard to the plans for Europe in 1992 and at the Organization for Economic Cooperation and Development (OECD) indicate increasing regard for reducing the institutional, policy-supported, and structural rigidities that slow or even prevent market adjustments to a rapidly changing world. Postwar institutions such as the General Agreement on Tariffs and Trade (GATT) and the International Monetary Fund (IMF) have also devoted themselves to reducing such market imperfections. In the case of GATT, direct reductions in tariffs as well as in import and export quotas have expanded trading opportunities throughout the world and have increased the communication among trading nations. The IMF, whose original role as defined at Bretton Woods was to finance temporary payments imbalances under the regime of fixed exchange rates, has taken a strong stance in favor of market and trade liberalizations for countries to which it has extended loans. Progress on these fronts has been made, though much more remains to be achieved.

EXPORTS, IMPORTS, AND TRADE BALANCES

During the 1980s the United States experienced trade deficits relative to output of a persistence and magnitude that have not been seen since the past century. The increasing external deficits of the 1980s were not associated with rapid inflation, as were the trade deficits of the late 1970s; nor did they weaken the economy or portend the dire economic consequences that some feared. On the contrary, the trade deficits of the 1980s reflected the relative strength of the U.S. expansion. Both real exports and real imports of goods and services have risen on average since the last quarter of 1982. The excess of imports over exports during that period provided U.S. citizens with additional consumption and investment goods to satisfy the demand generated by relatively rapid U.S. real growth. Until early 1985 that effect was reinforced by the strong dollar, which lowered the relative price of these imports.

External trade deficits necessarily imply inflows of capital. Whether the ultimate consequences of these inflows benefit the United States depends on how the resources are used and on whether there is a bias toward consumption in the United States. Such a bias could arise as a result of distortions inherent in the tax system, in regulation, or

in government spending. Government spending and transfers shift toward consumption some resources that the private sector might otherwise invest. Government spending financed by borrowing absorbs private savings unless the private sector acts to offset the savings reduction. An understanding of the causes and consequences of the trade deficits of the 1980s begins with their definitions.

MEASURES AND MEANINGS OF EXTERNAL BALANCES

Trade and current account balances convey information about exports and imports, net international borrowing, and net international flows of capital. In order to disentangle this information, it is helpful to examine the meanings of the external balances on which the United States collects data.

When the United States imports more goods than it exports, it experiences a merchandise trade deficit. Because the balance on merchandise trade is restricted to trade in physical goods, it is too narrow a measure of the many things traded internationally to be a reliable signal about U.S. trade. Adding U.S. exports and imports of services (including investment income) produces net exports of goods and services. Because the United States tended in the past to export more services than it imported, the recent deficit on net exports tended to be somewhat smaller than that of merchandise trade. The net service balance has declined recently, so that the difference between the merchandise trade and net export balances is smaller than in the past.

The balance on net exports as measured in the national income and product accounts (NIPA) is conceptually similar to but slightly narrower than the balance on goods and services as measured in the international transactions of the Bureau of Economic Analysis (BEA). The balance on net exports excludes interest payments and receipts on government liabilities; but these investment earnings are included in BEA's balance on goods and services. (The NIPA and BEA balances also differ in the way they account for certain other items such as gold, capital gains and losses, and data revisions.) A still broader measure of the external trade balance is BEA's current account, which is derived by adding net international remittances, pensions, and other unilateral transfers to the balance on goods and services. Because the United States tends to transfer more abroad than foreigners transfer to the United States, the current account deficit exceeds the deficit on net exports. The balance on the current account is the most inclusive and reliable measure of the value of the net flow of U.S. sales to foreigners.

By measuring the balance between exports and imports of goods and services in constant 1982 dollars, it is possible to determine real

net exports. This measure is the one most closely associated with real GNP, which reflects real living standards. Because differences between net exports in current and constant dollars reflect changes in the relative price of imports and exports, however, only the relative movements of the balance on real net exports are meaningful. For example, in 1972 the difference between exports and imports in current dollars was positive, implying a surplus on real net exports—that is, net exports in 1972 dollars. Between 1972 and 1982 the price of exports went up by a factor of 2.4, while the price of imports more than tripled, owing primarily to the two oil price shocks in the 1970s. Reevaluating 1972 exports and imports in 1982 dollars increases the value of imports by enough more than the value of exports to make 1972 a year of a deficit in real net exports. Conversely, revaluing 1982 net exports in 1972 dollars raises it to an even larger surplus. Given a base year whose prices are chosen to remain constant, measurement can be made of relative increases and decreases of the balance on real net exports, but not of whether it is in deficit or surplus.

Chart 3–3 depicts the nominal current account as well as net exports in current and constant 1982 dollars since 1963. All three measures of the external balance exhibit broadly similar patterns. Until the second quarter of 1983 all three measures stayed within the ranges exhibited in the previous postwar history. Beginning in 1983, however, all three accounts deteriorated substantially. The deficit on real net exports reached its peak at $151.8 billion in the third quarter of 1986. Since then it has declined from 4.1 percent of real GNP to 2.3 percent. The deficit on net exports in current dollars reached its peak in the last quarter of 1987, and has since turned around. Since 1983 the deficit on net exports has averaged 1.8 percent of GNP, greater than any deficit experience in this century, but about the same as the average ratio of the post-Civil War deficit on goods and services to output in the years 1869–75.

A deficit in net exports implies several things. First, it implies that total spending by residents of the United States—government and private investment and consumption—is greater than the value of GNP or domestic income. When domestic purchases exceed domestic production, the country imports the excess and runs a deficit on goods and services. Alternatively, it implies that national saving is less than national investment. This result is a direct consequence of national income accounting relationships. Apart from some relatively minor items, the excess of national investment over national savings equals the excess of domestic demand over GNP, and thus the deficit on net exports.

Finally, a deficit in net exports implies that, on net, foreigners are accumulating claims on or reducing liabilities to the United States,

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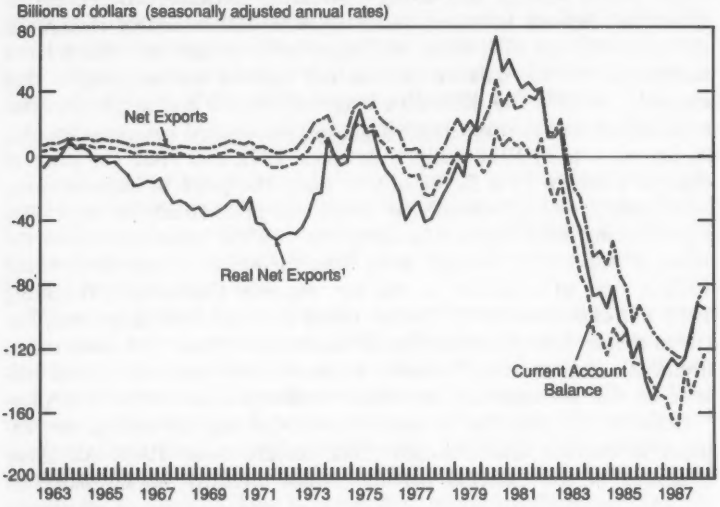
Chart 3-3

Net Exports and the Current Account Balance



¹ In 1982 dollars.

Source: Department of Commerce.

either in the form of direct investment or acquisition of financial assets (including those of the government). A current account deficit must equal in magnitude the capital account surplus, because in order to purchase current goods and services in excess of those sold, assets must be sold in excess of those purchased. Except for a statistical discrepancy, the current account deficit equals this net capital inflow, which in turn is conceptually similar to net foreign saving.

Under a strictly flexible exchange-rate regime, the exchange rate adjusts until the net payments offered by market participants balance exactly, so that capital account transactions exactly offset those of the current account. If the monetary authorities engage in capital account transactions, as they might under fixed exchange rates or a managed float, a current account deficit must equal in magnitude the surplus on the total capital account, including the value of any net official sales of international reserves.

THE CURRENT ACCOUNT BALANCE: RECENT HISTORICAL EXPERIENCES

Many factors can lead to net international borrowing, and thus to deficits in the current account. In some cases a current account deficit signals an inherent problem in economic policies or in underlying economic conditions. In other cases a current account deficit reflects a healthy, growing economy where citizens are borrowing in order to invest and consume in anticipation of a robust future. Three recent experiences of current account deficits are instructive on these differences: the first occurred between early 1971 and the end of 1972, the second between mid-1976 and mid-1980, and the last in the period since the third quarter of 1982.

The first of these incidents had its seeds in the late 1960s, as the U.S. dollar creation in excess of amounts consistent with the maintenance of the Bretton Woods Agreement led to dollar outflows that exceeded the amount of dollars willingly held by foreigners and domestic residents. The current account of the United States declined accordingly, leading to the balance of payments deficits and the accumulation of the excess supply of dollars by foreign central banks noted in the previous section. Current account deficits persisted until early 1973, when the dollar was finally allowed to float freely. As can be seen in Chart 3–1, the value of the dollar fell almost without exception throughout the period both in real and nominal terms, while both the balance on real net exports and the current account first declined and then, beginning in 1972, began to increase. When the underlying source of a dollar depreciation is excessive money creation, the current account and the value of the dollar tend to deteriorate together.

The circumstances characterizing the latter 1970s appear to be similar. The rapid U.S. monetary expansion intended to combat the high unemployment resulting from the recession of 1974–75 led simultaneously to higher inflation, a depreciating dollar, and a declining current account. By the middle of 1975 real imports began to soar, and by the end of the next year the current account became negative. The deficits on the current account and real net exports began to shrink in 1978. The inflation-fighting stance adopted by the U.S. monetary authorities in late 1979 helped to halt the deteriorating dollar and the rapid capital outflows of the period. Real exports picked up and real imports slowed. By mid-1980 the current account was in surplus and real net exports were rising briskly. In 1982, however, the current account again fell into deficit, followed shortly by a decline in real net exports.

Unlike the earlier experiences with current account deficits, both of which were associated with excessive money growth relative to output, the experience of the 1980s has been one of incentive-based

fiscal policy and an inflation-fighting stance. The recent decline in the current account actually began in 1980, when the prospect of reduced inflation under the new regime of monetary restraint raised real after-tax rates of return in the United States relative to those abroad. As foreigners began to increase their willingness to hold U.S. assets, the U.S. current account fell. This trend was reinforced by the effects of the Economic Recovery Tax Act of 1981, which reduced corporate taxes, further increasing after-tax real returns in the United States relative to abroad. The dramatic U.S. expansion beginning in 1982 came at a time when many U.S. trading partners were still in the throes of slow growth or recession. The growth of total public and private U.S. demand for consumption and investment goods, based on the strength of the expansion, outstripped the growth of current U.S. output. This increase in relative U.S. demand resulted in growing current account deficits accompanied by voluntary private capital inflows. The rising real value of the dollar amounted to a relative price effect that further reinforced the income effect behind the increased relative demand.

In the past few years, foreign nations have begun to acknowledge and emulate the success of U.S. policies, with the result that, since mid-1987, the external balances have begun to turn around. Foreign tax reductions and monetary restraint have reduced foreign inflations and been accompanied by increases in foreign GNP growth that have in turn increased relative foreign demand. The prospect of reduced trade and structural barriers associated with the 1992 plan for a single European market and the extension of the European Community to include Spain and Portugal have resulted in sharp increases in investment in Europe. Again, the decline of the dollar, which partly reflected these improved foreign conditions, has helped reinforce the improvement in the U.S. current account.

A frequently made claim is that recent U.S. current account deficits are financing a U.S. spending spree that will end in the painful curtailment of future consumption in order to service the debt. This result is possible but not inevitable. The outcome depends on how the resources are used. Borrowed resources enable the United States to increase investment, raising productivity and future output, thus providing the resources to service the debt out of higher future incomes. On the other hand, relatively low U.S. savings and investment rates suggest that much of the inflow of foreign capital is instead being diverted to current consumption. As Chapter 1 showed, however, measured U.S. investment rates are understated relative to those of the rest of the world because education, research and development, and consumer durables, on which U.S. expenditure is relatively high, are excluded from the usual measures of investment. The

encouragement of U.S. investment through tax laws that raise expected after-tax rates of return and make uniform the tax rates on alternative kinds of capital has been a goal and an achievement of this Administration. Raising corporate or marginal income tax rates will discourage further investment and reduce future output, making the servicing of the foreign debt more difficult.

During the 1980s the large U.S. external deficits occurred along with large U.S. Government budget deficits. While the concurrence of these deficits has often been noted, a precise statistical relationship between the two is not expected on theoretical grounds and has not been found. In principle, if the government simply taxes less while borrowing more in order to finance a given amount of government expenditure, the private sector may simultaneously save the difference in anticipation of the higher future taxes necessary to repay the debt, including interest, that the government has incurred. Net borrowing by the United States under these circumstances would not increase if the only factor were a government budget deficit. In practice, government expenditure was not held fixed during the early 1980s; and various distorting tax laws may have discouraged sufficient private saving to offset the effects of the government borrowing. Higher economic growth and the reduced government spending consistent with the Gramm-Rudman-Hollings deficit reduction plan will contribute to higher U.S. saving, and hence to further reductions in the current account deficit, without a tax increase.

THE CHANGING U.S. NET ASSET POSITION

The negative current accounts of the 1980s have meant annual increases in the net claims foreigners held on the United States. Even though total U.S. holdings of foreign assets have continued to increase on average during the 1980s, foreign ownership of U.S. assets has increased at an even faster pace. As a consequence, the postwar role of the United States as net lender to and investor in the rest of the world diminished during the 1980s. According to official estimates, since 1985 the United States has acquired a position of net indebtedness toward the rest of the world, a position last assumed by the United States in World War I. At the end of 1987, total U.S. assets abroad were recorded at $1.17 trillion, $368 billion less than recorded foreign assets in the United States. Although these official estimates may substantially underestimate the true U.S. net asset position, the trend implies a change in the traditional role of the United States as a net lender.

Although measured U.S. net external indebtedness in 1987 represented the largest net nominal amount owed by any single country, it

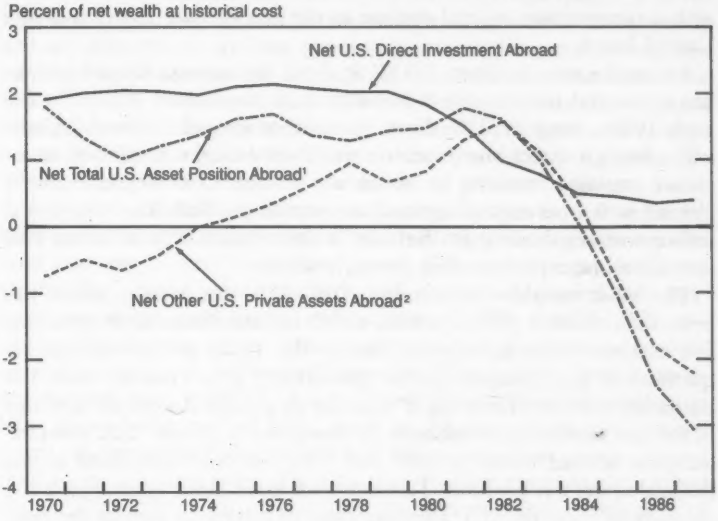
amounted to only 8.1 percent of GNP. This amount is small compared with U.S. net indebtedness-to-GNP ratios in the latter half of the 19th century. Following the Civil War and again following the period of heavy investment in railroads during the 1880s and 1890s, this ratio reached a full quarter of average annual GNP. Based on estimates produced by the IMF, Canada's net external debt (excluding gold holdings) was 34 percent or more of Canadian GDP throughout the 1980s. In 1987 the service on the gross U.S. debt abroad amounted to less than 2 percent of GNP and was less than U.S. earnings on assets abroad. Even a further increase in net U.S. debt need not be a problem for the United States. By continuing to increase U.S. output, the productive use of resources will keep the U.S. net debt and its servicing from growing too fast relative to GNP. Nevertheless, questions about the causes and consequences of the debt merit examination. It is helpful to begin with definitions and facts.

At the end of 1970 total U.S. assets abroad stood at $165 billion, 54.7 percent higher than foreign asset holdings here. Total assets include direct investment, other private assets (such as bonds, Treasury bills, bank deposits, and stock), and official assets such as international reserves. These assets had largely been accumulated during the postwar period, as the United States contributed heavily to the rebuilding of Europe and Japan through loans and direct investment. On average, U.S. assets abroad grew somewhat more slowly than foreign assets in the United States during the 1970s. From the end of 1979 to the end of 1987, however, the average annual rate of growth of foreign assets in the United States increased from the 16.2 percent per year of the 1970s to 17.7 percent per year, while the average annual rate of growth of U.S. assets abroad fell from 13.3 to 10.9 percent.

Chart 3–4 shows the total U.S. net asset position abroad and two of its components as a percentage of U.S. wealth net of depreciation. U.S. net wealth consists of the value of government and private tangible assets (including land, structures, inventories, and consumer durables), and net U.S. claims on foreigners (including both net financial assets and net direct investment abroad). Because the net U.S. asset position abroad is available only on a primarily historical-cost basis—that is, excluding changes in asset values attributable to capital gains or losses for many of the assets—net wealth is also computed on an historical-cost basis. The total net U.S. asset position abroad was 1.8 percent of net wealth in 1970. Although U.S. holdings of foreign assets continued to increase on average even relative to U.S. net wealth, the percentage of net wealth represented by foreign asset holdings rose more rapidly. Consequently, by the end of 1987 net foreign assets in the United States amounted to some 3.1 percent of U.S. wealth.

Chart 3-4

U.S. Net Asset Position Abroad as Percent of Net Wealth



[1]Direct investment, other private assets, and official assets.

[2]Nondirect investment.

Sources: Department of Commerce and Board of Governors of the Federal Reserve System.

Several factors caused the reversal of the net asset position of the United States. By the mid-1950s Europe and Japan had recuperated from the war's devastation, reducing the net outflow of capital from the United States. The incentives to use U.S. dollars to finance the purchase of foreign assets created by the arrangements of Bretton Woods were removed with its breakdown in the early 1970s. Increased U.S. private and official lending to developing nations partly offset the contraction in the net U.S. capital outflow to other industrial countries. By the early 1980s, however, debt repayment problems on the part of those developing nations reduced their ability to borrow.

At about the same time U.S. tax laws in the early 1980s made the country a relatively desirable and safe investment for its trading partners, simultaneously attracting private foreign capital into the United States and reducing the relative desirability to Americans of foreign assets. Additionally, beginning in 1982 the robustness of the eco-

nomic expansion in the United States led to an increased U.S. demand for goods and durables for consumption and investment purposes. The result of these forces was that the capital account deficits in the 1960s gave way to capital account surpluses in the 1980s, with a concomitant annual decline in the net lending position of the United States.

As can be seen in Chart 3–4, U.S. direct investment abroad continues to exceed foreign direct investment in the United States. In the early 1980s, however, U.S. direct investment abroad declined slightly, while foreign direct investment in the United States continued to increase rapidly, resulting in a decline in the U.S. net investment abroad to 0.4 percent of national net wealth in 1987. The net capital inflow was responding to the rise in the relative U.S. after-tax real rate of return experienced in the early 1980s.

The most variable component of the U.S. net asset position has been that of other private assets, which include financial instruments but exclude direct investment. During the 1980s private foreign acquisition of U.S. financial assets, particularly U.S. Treasury bills, has outpaced even the fairly rapid increase in private American holdings of foreign nondirect investment. A slowdown in private U.S. asset acquisition abroad between 1982 and 1984 further contributed to the decline in the net position. These private asset flows again reflect the increase in expected U.S. after-tax rates of return, as well as the relatively low risk associated with U.S. Treasury assets, including the reduced risk of U.S. inflation during the 1980s.

The figures presented in Chart 3–4 and above substantially underestimate the U.S. asset position relative to the foreign position. Because direct investment is valued at historical cost, the increased market value of older assets is not taken into account. American assets abroad are of a relatively older average vintage than foreign assets here, resulting in an estimate that undervalues the net U.S. asset position. Moreover, the current definition of the U.S. asset position counts official holdings of gold as claims on foreigners, but values the gold at the official price of $42.22 per troy ounce. Revaluing official gold holdings of the United States in 1987 at $400 per troy ounce reduces the apparent net debtor position of the United States by one-fourth. On the other hand, allowance for the reduced market value of U.S. holdings of the debts of troubled developing countries such as Brazil, Mexico, and Argentina tends to increase the U.S. net debtor position. In addition, if the bulk of the errors and omissions item in the U.S. capital account is assumed to reflect unrecorded capital inflows, then U.S. liabilities to foreigners are also understated. One recent estimate correcting for some of these measure-

ment deficiencies suggested that the United States continued to be a net creditor in 1987 by about $50 billion.

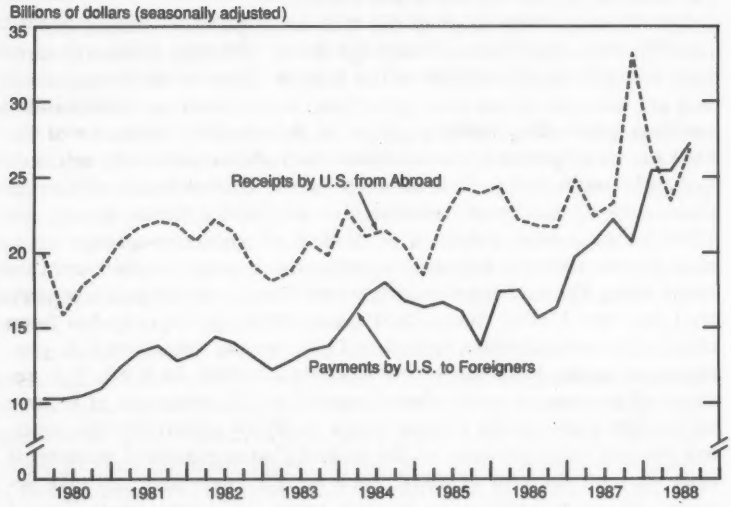
An alternative indicator of the U.S. asset position abroad can be inferred from international earnings flows. Although quarterly earnings are not strictly related to the market value of the investments, and are affected by tax laws governing assessments on distributions, earnings may still provide a gauge of the market's valuation of the U.S. net asset position abroad. Chart 3–5 shows seasonally adjusted quarterly public and private earnings by the United States on foreign assets and by foreigners on assets in the United States during the 1980s. These series exhibit a good deal of quarter-to-quarter variation despite seasonal adjustment, reflecting changes in short-term interest rates, the exchange rates at which foreign earnings are repatriated into the United States, and taxes. Although the gap has been closing for several years, quarterly U.S. receipts exceeded U.S. payments on assets until the second quarter of 1988. In 1987, U.S. receipts of income on assets abroad exceeded U.S. payments of income on foreign assets in the United States by $20.4 billion. By this measure the net asset position of the United States remained positive at least through the end of 1987. Such an inference does not take account of the differences in interest rates. American assets abroad tend to earn higher rates of return than foreign assets in the United States. This difference may reflect the greater relative riskiness of foreign assets, or it may reflect the higher realized returns that come with long-established capital investments. On the other hand, it may be an artifact attributable solely to comparing earnings with the artificially low historical-cost value of the assets.

Regardless of whether the net U.S. asset position is still positive, the trend has certainly been for it to decline. The year 1982 marks a quickening in the pace at which foreign net lending to the United States, relative to wealth, increased. Since that year foreign non-official lending and direct investment to the United States have increased by 151 percent, while U.S. private lending and direct investment abroad increased by 44 percent. The largest percentage increases in foreign holdings of U.S. assets during the period were in Treasury securities and corporate and other bonds. During this period, after-tax real returns in the United States had increased relative to those abroad, attracting the large private capital inflow.

Foreign holdings of U.S. Government securities have increased substantially during the 1980s. Interest payments made to foreigners by the U.S. Government are currently 2.6 percent of government expenditures, and amount to 18.7 percent of net U.S. Government interest payments. The inflow of foreign funds for which these interest payments serve as compensation is beneficial in several ways. It helps

Chart 3-5

Asset Earnings Flows



Source: Department of Commerce.

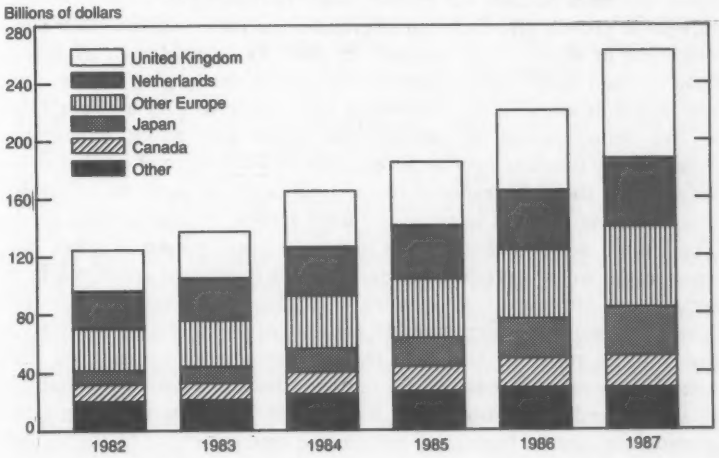
to keep U.S. interest rates close to world levels. It frees up the capital of U.S. citizens for other purposes. To the extent that the capital has been invested productively rather than consumed, the increase in expected future income attributable to that investment can be expected to compensate for the interest payments due to the foreigners who helped finance it.

Although the majority of the increase in net foreign claims on the United States has been in financial assets, foreign direct investment in the United States has also increased in the 1980s. Chart 3–6 breaks down the foreign direct investment position in the United States since 1982 by nationality. Direct investment by the United Kingdom represents the largest component of foreign ownership in the United States, averaging 25 percent of total foreign direct investment since 1982. The Netherlands, at 20 percent, is the next largest single investor. Other European direct investment averaged 22 percent. Japanese direct investment constituted 11 percent, growing from 8 percent in 1982 to 13 percent in 1987. Canadian and other direct investment make up the remainder.

Free international trade in assets, including direct investment, benefits both buyers and sellers. At the same time, there is some concern about the impact of foreign direct investment on national security. The Exon-Florio provision of the Omnibus Trade and Competitiveness Act of 1988 empowers the President to investigate and block foreign direct investment for reasons of national security. This provision is a step toward meeting those concerns, while allowing the United States to maintain an open investment policy.

Chart 3-6

Foreign Direct Investment Position in the United States



Source: Department of Commerce.

As a net debtor to the rest of the world, the United States has certain obligations. In order to service the debt in the future, the Nation must make appropriate use of the resources today. By continuing to use the loan proceeds to engage in productive investment, the United States can service the future debt without reducing consumption growth.

Because the debt of the United States is denominated in U.S. dollars, inflation in the United States would have the short-run effect of reducing the real value to foreigners of their long-term debt instruments. Such an inflation would reduce the role of the dollar as a principal world currency if foreigners became hesitant to denominate debt and goods contracts in dollars. Since 1982, when the current increase in net lending to the United States started, U.S. inflation has

remained under control. Nevertheless, some increase in the international roles of other currencies has occurred.

Table 3–2 compares the roles of various currencies in the denomination of international bond issues. Although the role of the U.S. dollar as an international currency is no longer the formal one assigned to it at Bretton Woods, widespread use of the dollar has continued under flexible exchange rates. Since 1983, however, the share of the U.S. dollar in the denomination of internationally traded financial assets has decreased by 44.3 percent, while the shares of the Japanese yen and other currencies have increased substantially. Some of those increases parallel the greater share of lending by nations whose increased growth and financial liberalizations have enabled their participation in world credit markets to soar. As nations such as Japan have opened their capital markets, in part at the urging of the current Administration, their currencies have come to play a larger role in the denomination of international loans and goods payments. Some of the increase may be a response to international market concerns about the U.S. response to the temptation to incur an inflation, thus reducing the real value of the debt service on outstanding debt. The United States welcomes the increased participation of other nations in the world's credit markets. Open international credit markets benefit the citizens of all countries. At the same time, the United States continues to offer credible assurances of its ability and intention fully to repay its real debt through monetary restraint and domestic investment incentives. By reducing inflation until price stability is restored, and continuing its policies of promoting domestic growth, the United States will ensure the continued use of the dollar throughout the world as a means of payment, a unit of account, and a store of value.

TABLE 3–2.—*Currency Denomination of International Bond Issues, 1983–88*

[Percent distribution]

Year	United States	Japan	West Germany	Other
1983	78.3	0.5	8.1	13.2
1984	80.0	1.5	5.3	13.3
1985	70.9	4.8	7.0	17.2
1986	62.9	9.9	9.1	18.1
1987	41.3	16.1	10.7	31.9
1988: First 3 quarters	43.6	9.0	12.9	34.6

Note.—Data are shares of total new issues of international debt. Shares may not sum to 100 percent due to rounding.
Source: Organization for Economic Cooperation and Development.

THE DEBT OF DEVELOPING NATIONS

Compared with the manageable debts of developed nations, the external debts of developing nations reached unprecedented levels during the late 1970s and early 1980s. Between 1980 and 1982 the average external debt of developing countries reporting their loans to the World Bank grew from 28 percent to 36 percent of GDP. Although the pace of new lending has diminished since 1982, stagnating real GDP and investment in many of those countries further increased average external debt to 48 percent of GDP by 1986.

Although no generally accepted economic criteria exist for the maximum sustainable level of debt a country can bear, the experience with developing nations during the late 1970s and early 1980s has been alarming to their creditors. Only the regions of South and East Asia (including the Pacific) continue to have external debt-to-GDP ratios within the range experienced recently by developed countries. The ratios for the African nations south of the Sahara soared to an average of 70 percent in 1986. The average debt of the Latin American and Caribbean countries has hovered around 60 percent of GDP since 1983, with some individual countries reaching levels higher than 100 percent. Each increase in debt requires a permanent increase in the net exports of the indebted country in order to service that higher debt. Nevertheless, during the 1980s the exports of many of these countries as well as their investment have slowed, although the exports of some highly indebted countries have improved since 1986.

Beginning with Mexico in 1982, many indebted developing nations have interrupted servicing portions of their debt, in some cases unilaterally declaring moratoriums on both principal and interest payments. Official lenders such as the members of the Paris Club and various consortia of commercial banks have increasingly devoted resources to renegotiating and rescheduling existing private and official bilateral debts. International institutions such as the IMF and the World Bank have played a leading role in assisting these renegotiations. Almost one-third of the estimated $1.2 trillion worth of total debt owed by developing countries in 1987 was subject to renegotiation between January 1980 and September 1987. Fifty nations, representing one-half of the developing countries reporting their loans to the World Bank, were involved in these renegotiations. Proposals for debt relief continue to be presented, despite negotiated reductions in debt servicing, new loans and investments, and somewhat improved economic conditions in many of these countries.

The causes of these debt problems, the implications for the United States and other lenders, and the solutions vary by debtor country.

Nevertheless, some common features and lessons can be observed, beginning with the meaning of the debt figures, then the causes, and finally the proposed solutions.

The debt totals of developing nations are not directly comparable with the net international asset positions of developed countries. The debt totals of developing nations exclude net foreign direct investment, which in some developing countries has been substantial. On the other hand, the debt figures also do not include the assets of the developing countries held abroad. In many cases, capital and exchange controls imposed by these countries limit the ability of their citizens to buy foreign assets, suggesting that the net external liability position is well approximated by gross external debt. However, capital controls do not prevent and may encourage capital flight. Although by definition flight capital is not an available asset of the country (for example, its earnings cannot be reached for tax purposes by the country of origin), it does have the potential for repatriation should economic conditions at home improve, because citizens of the country control it. Recent estimates of the flight capital of seven highly indebted countries suggest that it may represent one-third of their total external debt, and may be substantially higher for some individual countries. Nevertheless, even though the external debt figures for developing countries are not perfectly comparable with the net external debt statistics available for developed nations, they are likely to be broadly suggestive of their current position.

The debt of developing nations can be broken into short-term, long-term unguaranteed, and long-term guaranteed debt. Based on IMF estimates, long-term debt guaranteed by the debtor countries accounted for 75 percent of total developing-country debt in 1987. Private creditors held about one-half of that debt. International agencies and governments held the remainder of the long-term publicly guaranteed debt. International agencies customarily retain seniority over private creditors in the servicing of debt. The resources that contributing countries provide to international agencies have been increased as the agencies increased their responsibilities in addressing the debt problems. The United States recently supported a $74.8 billion general capital increase for the World Bank to enable it to support reforms and strengthen its role.

Although many highly indebted countries continue to be good credit risks, maintaining scheduled principal and interest payments and occasionally even prepaying, the 1980s have witnessed a large number of reschedulings. Many debtor nations have also fallen into arrears on commercial bank loans. Renegotiations have often been preceded by brief moratoriums on the payment of principal and, in the past few years, interest on the debts of some countries.

Although the causes for these troubling events vary by country, some themes stand out. First, the low or negative real interest rates of the 1970s increased borrowing, while the high real interest rates of the early 1980s suddenly raised the cost of servicing the outstanding debt. Some of the effect of the rise in cost was mitigated by the portion of the debt that had been negotiated at the lower fixed rates of the earlier period, notably World Bank loans. However, most of the loans were at premiums over the floating London Interbank Offered Rate (LIBOR), the benchmark on many short-term interbank loans. While the average interest rate on new commitments of official loans went from 5.2 percent in 1975 to 7.5 percent in 1982, the average market interest rate on new private commitments went from 8.6 percent in 1975 to 12.3 percent. Because much of the debt was denominated in U.S. dollars, unexpectedly high levels of real debt service resulted from the high real interest rates and strong dollar that accompanied the reduction in U.S. inflation during the early 1980s and the higher expected after-tax real rates of return brought on by the Economic Recovery Tax Act of 1981.

Second, the effects of the higher real interest rates of the early 1980s were exacerbated by the collapse of the prices of many commodities such as copper and oil, on which particular developing countries had relied for export revenue. In some cases recoveries in these prices have contributed to improvements in the solvency of these countries—notably, copper prices for Chile. In other cases, such as oil, prices have fallen even further. As long as some countries depend heavily on a small number of commodities for their exports, such high variance in earnings must be anticipated.

A third common cause of debt problems has been the use to which the loan proceeds were put in some countries. In some cases, poor investment projects simply failed to pay off. Some of these projects such as the building of minor roads had low expected payoffs at the time the investment was undertaken. Others were initially promising projects that ultimately never yielded the expected return. In many countries consumption rather than investment was the destination of the funds. This outcome in itself need not signal trouble, especially for a nation with promising prospects. When investment is insufficient to cover the loan repayments, however, consumption eats into wealth. The tendency of troubled debtors to reduce investment more than consumption as a response to maintaining repayment schedules has been an additional complication of the 1980s. This response compounds the problem, making future repayments increasingly difficult. In some cases, too, outright fraud and corruption may have waylaid funds meant for productive purposes.

Finally, a fourth cause of the debt problem was the further deterioration of economic conditions within these countries. Barriers to trade and to financial transactions, price controls and fixed exchange rates coupled with high domestic inflation rates, high marginal tax rates, and the nationalization of private industry handicapped these countries as they entered the difficult passage of the 1980s. In many instances, these distorting disincentives were increased rather than reduced as a response to the economic downturns. Capital flight often resulted. The very capital needed by these countries to invest in more promising industries, rebuild, and repay the debts moved quickly out of the countries as the governments—through inept policies and threatened confiscation—reduced the incentives to keep wealth at home. Policies that entice this capital to be repatriated can help the countries achieve domestic economic recovery as well as return to timely debt servicing.

Despite the difficulties, some countries have achieved a degree of success in coping with their problems. South Korea, Mexico, and Chile have all improved their debt standings. For Chile, the improvement accompanied sweeping deregulation of domestic markets and a consistent inflation-fighting stance, leading to rapid and sustainable economic growth and renewed domestic investment. Based on its successful performance, Chile's creditors unanimously agreed to a partial waiver of the prohibition against buying back its outstanding debt, permitting it to use copper earnings in excess of a threshold value to repurchase and thus extinguish some of its debt. On the other hand, countries that tried to raise tax revenue via inflation have generally fared among the worst, creating the greatest amounts of capital flight, incurring repeated currency devaluations, and in extreme cases, inducing their own recessions in attempts to cure their monetary excesses.

Progress in the form of increased gross domestic product and increased export earnings has been initiated on average in the 15 major debtor countries targeted by the Baker Initiative of 1985, of which Chile is one example. The Baker plan strengthened and extended many of the existing proposals for dealing with the debt problems of the developing nations. It emphasized four essential and mutually reinforcing elements: first, the importance of achieving sustained economic growth; second, the need for market-oriented reforms in order to achieve such growth; third, new debt and equity financing as well as the return of flight capital to help support such reforms; and fourth, a case-by-case approach to address the individual needs of each country.

A key feature of the plan was to highlight the need for reform within the debtor countries, particularly reform in areas that will con-

tribute to renewed investment and output growth so that the net exports of these countries can be sufficient to service their debt obligations. Trade and financial market liberalization, privatization, deregulation, increased reliance on market prices including exchange rates, and fiscal balance can help these countries recuperate and return as reliable participants in world credit markets. For countries at the lowest levels of income that undertake appropriate economic reforms, initiatives have been put into place to provide substantially increased concessional financing.

The Baker plan continued the emphasis on the need for voluntary negotiations that leave room for individual responses to the wide variety of problems arising in a particular developing country. There can be no grand solution, because each country has its own constraints and opportunities. Each creditor, and each borrowing nation, must be free to negotiate acceptable terms. This approach encourages a variety of debt conversion techniques and innovative responses to the evolving debt climate.

While the long-run solution to the debt problem must be directed at regenerating investment opportunity within these countries, short-run solutions must include either reschedulings or other types of negotiated adjustment. Reschedulings basically extend the maturity of the debt. The advantage is that the annual principal and interest payments are reduced, helping a country through a temporary downturn without having to reduce domestic spending further. The cost is that the debt increases and additional interest must be paid in the future on the portion of the principal that is rolled over. Nevertheless, for many countries this step has been useful.

Some types of negotiated adjustment reduce the creditor's exposure without affecting the obligations of the borrower. The lending banks are currently able to sell their debt in a secondary market. Doing so imposes severe costs on the bank. Typically, the discount in the secondary market is substantial. Following the sale, the bank must adjust its balance sheet to take account of any previously unrecorded difference between market and book value. Another alternative is swapping the debt for equity equal in value to some measure of the market value. Debt-equity swaps can sometimes benefit all parties. Because the debtor nation stands to gain by reducing its interest payments, the value of the equity offered often exceeds the secondary market price. Part of the debt and the need to service it is wiped out for the debtor country, although it is replaced by dividend payments to be made.

Under a debt-equity swap, capital is left in the debtor country and a working relationship remains between the investor and the nation. Direct foreign investment contributes to improved foreign expertise

and increases competition and market efficiency. Some risks are entailed for the creditors. For example, the creditor must now learn about business conditions and laws in these foreign countries, a risk that is fairly substantial and is outside the usual province of banking expertise. In order to entice banks and other lenders into such swaps, a country must offer assurances minimizing the risks of nationalization, of denial of the right to repatriate the dividends, or of imposing exchange controls. Perhaps as a consequence of these risks, most of the debt-equity swaps have been in the secondary markets involving private investors rather than banks' involvement for their own portfolios. In some cases, country risks associated with direct investments qualify for U.S. Government guarantees under the Overseas Private Investment Corporation or the investments can be insured by the private sector. Correct assessment of these risks for the purpose of providing insurance is difficult but essential if the risks are to be allocated in an appropriate and unsubsidized manner.

Many countries face internal opposition to debt-equity swaps based partly on nationalistic fears about foreign control of capital, and subject the swaps to severe restrictions. There is also concern that the capital inflow at the time of the exchange will raise money growth and inflation, although this problem can be prevented by appropriate central bank action. Despite these objections, countries have found debt-equity swaps helpful. Debt-equity swaps have accounted for $10 billion to $12 billion in debt reduction, or almost one-half of the total debt reduction accomplished since 1982, and have been carried out successfully in Bolivia, Brazil, Chile, Mexico, the Philippines, and other countries.

In some cases debt reduction has been accomplished through debt buybacks where either the private or public sector repurchases the outstanding debt at a discount. This method has been successful in Brazil, Bolivia, Chile, and Mexico. A promising innovation is the opportunity to swap debt for bonds, an approach tried recently in Mexico. Perhaps because the bonds were not sufficiently more appealing in marketability, interest security, or price to the banks than the debt, only a small fraction of the outstanding debt was exchanged. Nevertheless, experimentation with swaps and buybacks holds the promise of finding arrangements attractive to both borrowers and lenders.

Grand schemes that attempt to encompass all of the individual debtor-country problems with a single proposed solution should be rejected. Circumstances differ across countries. Furthermore, proposals offering to transfer part of the debt to taxpayer-supported facilities may discourage countries from making the painful adjustments required to bring greater efficiency to their economies.

A fine line separates providing the proper environment for successfully resolving the debt problems and offering assistance that may ultimately compound the problem. Attention must be paid to the incentives and disincentives that any particular plan creates. The offer of official guarantees or an official program offering non-country-specific relief creates free rider and moral hazard problems, if some countries are tempted to declare insolvency in order to qualify for the aid. Confronted with an official program to provide relief, a borrowing country has an incentive to act in ways that reduce the market value of its debt in order to qualify for aid.

As long as the choice of whether and how to renegotiate the debt remains privately and individually determined, the market's traditional threat to limit further lending to recalcitrant debtors reduces these disincentives. Many banks have now recognized that the market value of the debt is less than its face value. Commercial banks are increasingly moving to reduce their developing-country exposure through a variety of techniques, including decisions to swap debt for equity, debtor bonds, or other local claims at market or negotiated prices. There have been several proposals to increase the incentives for debtors and creditors to negotiate such voluntary transactions. There is a danger, however, that many of these proposals would involve either additional official financing or a shift in risk from the private to the public sector. To avoid this result, debtors and creditors should be encouraged to pursue voluntary, market-based solutions to debt problems. To support these efforts, debtor countries must establish stable economic conditions compatible with the return of flight capital and sustainable growth. By privatizing state industries and liberalizing restrictions on domestic markets and international trade, as envisioned in the Baker Initiative, these countries can create an economic environment that is conducive to long-term growth and solvency.

International financial institutions may risk increasing their exposure in order to sustain full service of outstanding debt. Such increases of exposure could pose fundamental problems for the long-term viability of these institutions. It is important, therefore, to review the role of the IMF and World Bank in the debt strategy and their relationship to commercial bank financing packages.

International agencies and lending governments have played a constructive role in preventing the debt problem from degenerating into a crisis. They have offered a route for continued debt renegotiation and have encouraged economic reform. They have often sought to ensure adequate financing that, combined with commercial bank and Paris Club reschedulings, would meet debtors' financing needs, while leaving specific elements of financing packages and any debt-reduc-

tion techniques to be negotiated between the debtor nations and commercial banks. International agencies should continue to encourage reforms that increase market incentives and reduce government subsidies and deficits.

The chief aim of the United States and international agencies, should be to continue maximizing debtor nations' prospects for lasting economic reforms and sustainable growth. This objective is advanced by conditionality which ties new lending to programs that foster productive investment, growth, and market freedom. Under current policy, there is room for debtors and creditors to reach market-oriented agreements to reduce the value of the outstanding debt. If these negotiations proceed more actively, international agencies could continue the policy of making new loans conditional on reforms, leaving negotiations between debtors and private creditors to determine changes in the value of outstanding debt and the associated debt service. More resources could then be available to encourage domestic reform and increase the share of borrowing from international organizations used for productive investment; this change would heighten debtors' incentives to achieve economic reforms. Voluntary agreements leading to debt reduction would, if successful, lower the amount of debt service that the debtor economies would be required to support.

The demise of the Bretton Woods system and the rapid liberalization and accessibility of international financial markets have altered the roles of the IMF and the World Bank in a more general sense. The original function of the IMF was to maintain a system of fixed exchange rates by providing short-term loans of international reserves to ease temporary payments imbalances. This function was diminished as the major industrial countries adopted flexible exchange rates and were able to meet their financing needs from private markets. Similarly, the World Bank's original commission to provide credit to developing countries for investment in projects such as infrastructure was aided by the increased access these countries obtained to financing from private markets. Over time, both private and government credit expanded, and by the early 1980s many countries were deeply in debt. What began as an effort to increase insufficient market lending ended in a crisis exactly the opposite in character. Many countries borrowed to such an extent that they now face difficulty servicing their extensive debts.

At the urging of the United States and others, the IMF and the World Bank have undertaken increased responsibility to assist debtor countries in dealing with their debt problems. The IMF and the World Bank have increased their financing activities in support of economic reform efforts by developing countries that are having dif-

ficulty repaying their extensive debts. They are also playing a more active role in debt renegotiations between developing nations and their private and official creditors. This change in mission, however, has blurred the traditional distinction between the two institutions and has raised fundamental issues regarding their purposes and operations in today's world economy. These issues require careful consideration. The roles of official international organizations in a world of flexible exchange rates and integrated and efficient capital markets should be appropriately reevaluated and redefined.

CONCLUSION

The postwar period witnessed an unprecedented transformation of world financial markets. In the early 1970s the regime of pegged but adjustable exchange rates devised in 1944 at Bretton Woods proved unable to withstand the diversity of independent sovereign policies that had evolved. The regime gave way to the system of flexible exchange rates now in use. That system proved able to accommodate differing domestic monetary and fiscal policies during the 1970s, significant shifts in international capital flows, and increased international coordination of inflation-fighting, incentive-based policies during the 1980s.

A multinational system of fluctuating exchange rates was a new experience for the world. Wide swings in the value of the dollar during the 1970s and 1980s reflected underlying changes in worldwide domestic policies and events, including changes in relative inflation, marginal tax rates, expected real after-tax rates of return, and productivity. Moreover, the advent of the system of flexible exchange rates accompanied rapid growth in the volume of financial assets and the development and liberalization of financial markets in many parts of the world. New instruments and new procedures developed. It is not surprising that some time passed before central banks and governments learned to operate effectively to control inflation.

The current system of flexible exchange rates permits countries to achieve desired rates of inflation. In the 1980s many countries have embarked on policies to lower inflation, and they have succeeded much better than in the past. Countries acting alone must choose between price and exchange-rate stability. By choosing compatible policies, countries can achieve the goals of price stability and sustainable output growth and can thereby reach the additional goal of increased exchange-rate stability.

By focusing on long-term growth, price stability, and open trade, the United States has been able to achieve the longest peacetime expansion in its history. The United States has simultaneously encouraged the rest of the developed and developing world in its renewed regard for the incentive-based, free-market policies that have enabled the United States to achieve this goal. The continuation of these policies can lead to the economic prosperity that is the common goal not only of the United States but of all nations of the world.

CHAPTER 4

World Trade and Economic Growth

AS WORLD WAR II DREW TO AN END, much of the industrial world lay in ruins. Hunger and despair, not hope, prevailed in war-torn Europe and Asia. Political events—first in Eastern Europe, later in Asia—threatened the stability and freedom of nations on those great continents. The United States emerged from the war stronger, and more productive, than ever before. At this critical juncture in world history, the United States had a choice: to return to an isolationist, protectionist policy, as it had in the interwar period, or to assume the mantle of leadership that lay open to it. If it chose the latter route, it would have to decide what kind of postwar world to foster—one that guaranteed its own prosperity and security, while seeking to maintain weaker countries as political and economic inferiors, or one that offered all nations the prospect for prosperity and freedom enjoyed in the United States.

In looking back upon the past four decades, it is clear that the United States discharged its leadership responsibilities by helping to construct a world that offered hope, freedom, and the chance for prosperity for all who sought it. The cornerstone of U.S. policy was a vision of a world united, not divided; one in which the nations of the world were free to exchange their goods, and their ideas, for the betterment of all. Rather than trying to subjugate Europe and Japan economically, the United States sent massive foreign aid to rebuild their economies. And rather than attempting to perpetuate historical divisions within Europe in order to maintain its superiority, America dispensed the aid in a way that fostered cooperation among those countries, so that mutual economic and political cooperation would replace the hostilities of the past. Today, Europe stands on the brink of economic union, and the Organization for European Economic Cooperation formed to coordinate the distribution of American aid in Europe has evolved into one—the Organization for Economic Cooperation and Development—that includes the world's great industrial democracies.

American policymakers also recognized that trade, as well as aid, was an indispensable ingredient in postwar reconstruction. Thus, the General Agreement on Tariffs and Trade (GATT), which celebrated

its 40th anniversary this past year, was formed to reduce trade barriers that had been elevated in the interwar period. These barriers, notably the Smoot-Hawley tariff, were intended to protect American jobs and prosperity, but had instead lowered world trade and incomes. The principles of open and fair trade laid down in the GATT recognized that opening U.S. markets to foster reconstruction abroad would also create jobs and prosperity at home.

Today, the fruits of this policy are apparent. The growth rates of the industrialized countries during these past 40 years are virtually without parallel. Yet some see this phenomenal success as a cause for concern. Despite enormous increases in productivity and living standards in the United States, they see the narrowed gap between living standards here and abroad as a threat, rather than as the successful culmination of American policy. They cry that the Nation must protect American jobs and American industry; that it must close its borders, thereby frustrating the aspirations of developing countries today, as well as imposing enormous costs upon its own populace. As this chapter reviews the past 40 years of trade policy, it is important to recall the devastating experience of the 1930s—a time of isolationism—as well as the remarkable explosion in economic prosperity that accompanied the openness of the postwar period. It is also crucial to recognize those aspects of the international trading system, and of GATT in particular, that can be improved upon, for these issues will constitute the agenda for the future. The Nation's goal should not be to close markets at home, but rather to continue to open markets throughout the world.

ECONOMIC GROWTH AND TRADE IN THE POSTWAR WORLD

The end of World War II left a changed political and economic map. While the United States emerged from the war greatly strengthened, the economic output and industrial capacity of many of the combatants had been sharply reduced. Economic output in 1946 was well below its pre-war (1939) level in France, Italy, West Germany, and Japan. As late as 1950, output in West Germany and Japan had not returned to pre-war levels. By contrast, U.S. output in 1950 was two-thirds larger than the pre-war level, having grown on average nearly 4.8 percent per year.

From this inauspicious beginning, the rest of the industrial world soon joined the United States in experiencing rapid economic growth. Average world output over the period 1950–86 grew at an average rate of more than 4.2 percent, nearly doubling the 2.2 percent growth rate over the period 1870–1950. Even during the eco-

nomic expansion from 1870–1913, output had grown at an average rate of only 2.5 percent.

While Japan, West Germany, Italy, and France offer the most dramatic examples of this phenomenon, every major industrial country, with the sole exception of the United States, experienced faster growth in the postwar period than in the period 1870–1913 (Table 4–1). When viewed in terms of output per man-hour—a measure of productivity—the superior postwar performance is even more striking. Average productivity in the major industrial countries grew at almost 3.8 percent during the postwar period, as compared with 1.7 percent from 1870–1913. Not only was productivity growth generally higher in the postwar period than earlier, but also in many countries the growth rate more than doubled, and in Japan and Italy it more than tripled the rate in the 1870–1913 period.

Accompanying this rapid economic growth was an even more rapid increase in trade flows between countries. As can be seen from Table 4–1, exports grew quickly during the periods 1870–1913 and 1950–87, while they were relatively stagnant from the onset of World War I to 1950. Furthermore, trade has expanded more rapidly in the postwar period than in the earlier period of economic growth. The growth in world trade is attributable to a number of factors, including dramatic declines in tariff barriers throughout the industrial world and the reduction of internal barriers in Europe with the formation of the European Community (EC)—a development promoted by the United States. The expansion in trade is most notable for those countries that grew most rapidly—Japan, West Germany, Italy, and France. For the period from 1957—when the EC was formed—to 1970—by which time all internal tariffs had been eliminated—export volumes for France and West Germany increased by more than 230 percent each, while Italian exports grew by more than 425 percent. During this same period, exports from the United Kingdom, which did not join the EC until 1973, increased by only 67 percent. The comparable movements in gross domestic product (GDP) are also indicative, with output levels in France, Italy, and West Germany roughly doubling, but output in the United Kingdom increasing by only 45 percent.

The postwar expansion was not confined to industrialized countries. Some countries that were impoverished at the start of this period made remarkable strides toward joining the ranks of the industrialized world. Between 1965 and 1985 developing economies as a whole grew at an average rate of more than 5 percent. Among the most successful economic performers were Singapore, Hong Kong, and South Korea. Singapore and South Korea grew at annual rates of

TABLE 4–1.—*Output and Export Growth, 1870–1987*

[Average annual percent change]

Item and year	United States	Japan	West Germany[1]	France	United Kingdom	Italy	Canada
Real GDP:							
1870 to 1913	4.1	2.5	2.8	1.7	1.9	1.5	3.8
1913 to 1950	2.8	1.8	1.3	1.0	1.3	1.4	2.9
1950 to 1987	3.2	7.5	4.4	4.0	2.5	4.3	4.4
Real GDP per man-hour:							
1870 to 1913	2.0	1.8	1.9	1.8	1.2	1.2	2.0
1913 to 1950	2.6	1.3	1.1	2.0	1.6	1.8	2.3
1950 to 1987	2.0	6.2	4.7	4.1	2.7	4.4	2.3
Real exports:							
1870 to 1913	4.9	8.5	4.1	2.8	2.8	2.2	4.1
1913 to 1950	2.2	2.0	−2.8	1.1	.0	.6	3.1
1950 to 1987	5.2	12.4	9.3	6.5	3.8	9.0	6.1

[1] Pre-war estimates for West Germany are adjusted for territorial change.

Sources: A. Maddison, *Phases of Capitalist Development*, Organization for Economic Cooperation and Development, and Council of Economic Advisers.

more than 9 percent, while Hong Kong's annual growth rate was nearly 8 percent.

As in Europe, rapid expansion of exports accompanied fast overall growth in developing countries. Studies show that for the period 1963–85 real gross national product (GNP) per capita grew at more than 6 percent, and manufactured exports grew at more than 14 percent, for developing economies with a strong outward, trade-promoting orientation, while for the same period countries characterized as strongly inward-oriented and favoring self-sufficiency had real GNP per capita growth rates averaging 1 percent and manufactured export growth rates under 5 percent. Successful export-led growth in many developing countries could not have occurred without the liberalization of industrial country markets in the postwar period. Yet the greater successes have occurred in developing countries that have also opened their own markets to imports. Singapore and Hong Kong probably have the world's most liberal trade regimes. Although it still has much room for progress, South Korea initiated major trade liberalization efforts in the 1960s and again more recently.

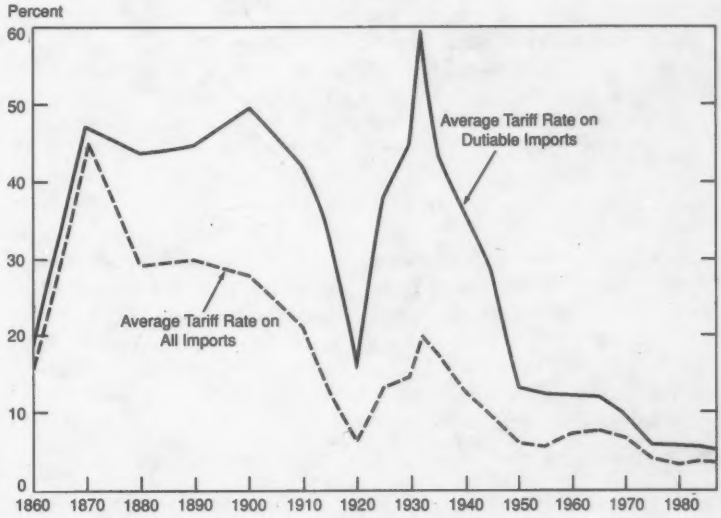
TARIFF LIBERALIZATION IN THE POSTWAR PERIOD

Today, U.S. tariffs are the lowest in history, with average tariff rates on all imports under 4 percent. This dramatic reduction in tariffs represents the progress achieved by steady efforts over the past 50 years to lower tariff barriers, both at home and among U.S. trading partners. The United States had not always been at the forefront of tariff liberalization, however. In the 19th and early 20th centuries, the United States had a far more protectionist trade regime than did

much of Europe. While the United Kingdom had pursued a policy of essentially free trade prior to World War I, the United States had consistently maintained high tariffs. From the end of the Civil War to 1900, U.S. tariff rates averaged nearly 30 percent on all imports, and more than 40 percent on dutiable imports, i.e., those imports subject to tariffs (Chart 4–1).

Chart 4-1

U.S. Tariff Rates, 1860-1987



Source: Department of Commerce.

The early 1900s saw several reversals in U.S. tariff policy. The Underwood Tariff of 1913 reduced tariff rates substantially, to an average of under 13 percent on all imports by 1915. But setbacks occurred following World War I, as the United States resumed a posture of political and economic isolationism. The Congress refused to approve U.S. membership in the League of Nations, and the Fordney-McCumber Tariff of 1922 brought the average tariff rate on goods subject to duties back up to nearly 45 percent by 1930. The economic downturn sparked by the 1929 stock market crash prompted the Congress to go even further, and the Smoot-Hawley tariff it passed in 1930 established the highest tariff rates in U.S. history. By 1932 the tariff rate on dutiable imports averaged nearly 60 percent. The combination of high tariffs and the ensuing depression led to a

sharp decline in imports: between 1930 and 1934 the dollar value of U.S. imports fell by nearly 50 percent. But the intended goal of protecting American jobs proved elusive. Exports shrank as U.S. trading partners mounted retaliatory tariffs, and the economy continued to deteriorate.

The passage of the Reciprocal Trade Agreements Act of 1934 marked the beginning of the U.S. tariff reduction policy that has endured to the present. Using the authority to negotiate reciprocal tariff reductions on nonagricultural goods by up to 50 percent of their Smoot-Hawley levels, the United States had entered into more than 20 bilateral agreements by the beginning of World War II. This approach brought average tariff rates back down to 35 percent of dutiable imports (and 12.5 percent of all imports) by 1940. The turnaround in trade flows, aided by the economic recovery, was dramatic: from 1934 to 1939 U.S. imports and exports increased by 40 to 50 percent.

Although the trade negotiations conducted at this time were on a bilateral basis, they already embodied a principle of nondiscrimination central to the multilateral approach the United States would promote after the war. Tariff reductions were applied not only to negotiating parties but to other trading partners as well, on a most-favored-nation basis. The scope of the pre-war liberalization exercise was limited, however, as major trading nations such as Japan and many in Europe chose not to participate. The outbreak of World War II interrupted U.S. efforts toward freer trade.

U.S. POSTWAR OBJECTIVES

The United States emerged from World War II as the world's dominant military and economic power. Yet Soviet expansionism in Eastern Europe, and civil war in China, threatened global stability. Recognizing that political stability required economic prosperity, the United States adopted a policy of promoting rapid economic growth abroad. The three pillars of this policy were: a stable international monetary system to finance international transactions; an open trading system to foster global economic growth and cooperation; and economic aid to help speed postwar reconstruction. This chapter focuses on the trade component of American policy.

The economic principles that govern trade among nations are essentially the same as those that govern trade among regions of a single nation, or among individuals. Just as individuals, or States within the United States, improve their standard of living by specializing in those tasks they perform best and exchanging these products for goods produced by other individuals or States, so do nations gain from international specialization and trade. Likewise, international

flows of investment, and the managerial and scientific know-how that accompany these investments, bring gains to all parties. The remarkable prosperity the United States enjoys today is, in large measure, attributable to the wisdom the Founding Fathers displayed 200 years ago when they made constitutional provision for the unrestricted flows of goods, capital, and people across State boundaries.

The gains from free international trade in goods and services are likely to extend beyond the economic sphere. Prior to the adoption of the Constitution, trade wars and other disputes were common among the original States. A contemporary observer remarked: "As to the future grandeur of America...it is one of the idlest and most visionary notions that ever was conceived...[The] clashing interests of the Americans...indicate that they will have no...common interest...a disunited people...suspicious and distrustful of each other, they will be divided into little commonwealths or principalities, according to natural boundaries...." Just as the economic union created by the Constitution led to a politically cohesive Nation, so can freer trade among nations lead to increased international political cooperation.

Embracing a policy of free trade does not imply that governments have no role in regulating international commerce. As with domestic commerce, government policy must ensure a stable economic environment, open competition, free trade, enforcement of contractual rights, and protection of intangible and tangible private capital. Governments that make unpredictable or frequent changes in tariffs or other restrictions on trade are likely to disrupt economic activity. Countries' failures to protect foreign investment or intellectual property rights reduce the returns to investment or innovation, decrease investment, and restrict the international flow of capital and ideas. Trade liberalization in one country generally benefits its trading partners as well as the country undertaking liberalization. International coordination raises the possibilities for additional liberalization efforts and the consequent gains from expanding trade. Thus, creation of a proper international trading environment requires active cooperation among nations to make and enforce the rules of the game. Recognizing the economic and political benefits of broad international participation in trade liberalization, the United States made a multilateral approach the cornerstone of its postwar trade policy.

TARIFF REDUCTIONS IN A MULTILATERAL FRAMEWORK: GATT

As the war drew to a close in 1945, the Congress authorized the executive branch to seek tariff reductions of up to 50 percent of rates prevailing at the beginning of that year. The United States worked to establish a multilateral framework for negotiations. Under U.S. leadership, an international conference was convened in 1947 to establish

an International Trade Organization (ITO) that would ratify the principles of free trade and create rules for enforcing these principles. American calls for talks to reduce tariffs immediately led 23 countries to participate in tariff-reduction negotiations in Geneva later that year.

For a variety of reasons, the European nations resisted American pressure for a rapid transition to free trade. These countries felt that their economies were too weak to compete in open markets, and generally favored more interventionist economic policies than did the United States. In addition, some wished to maintain the preferential trading arrangements they had with their colonies and other countries, and hence strongly resisted U.S. pressure for a comprehensive most-favored-nation principle.

Nevertheless, the talks in Geneva resulted in important achievements, both in the reduction of tariffs and in the establishment of general trading guidelines, which were drawn up as the General Agreement on Tariffs and Trade. Although the International Trade Organization was to have superseded GATT, the Congress failed to approve it and it never came into being. Thus, GATT emerged as the major forum for conducting international trade negotiations and supervising the implementation of their results. The next section reviews the principles guiding trade policy under GATT, the extent of GATT's achievements in tariff liberalization, and its remaining weaknesses in this and other areas of trade policy.

GATT Principles

The principles on which GATT was founded are the essential features of an open trading system. The GATT's aim of trade liberalization was to be achieved on a nondiscriminatory basis (that is, following the most-favored-nation or MFN principle); trade policy was to be transparent (hence favoring tariffs over quantitative restrictions whose effects on prices are less clear); tariff reductions negotiated under GATT, or "concessions" in GATT parlance, were "bound" so as not to increase above specified levels and were not to be replaced by other trade barriers ("integrity of concessions"); GATT members were to provide "national treatment" to each others' imports in matters of internal taxation and regulation; and nations were to follow an orderly process of dispute settlement, abiding by the internationally agreed upon rules and procedures, rather than engaging in unilateral retaliatory measures that might lead to escalating trade wars.

Tariff Reductions under GATT

In retrospect, GATT has had remarkable success in reducing, and in many cases virtually eliminating, tariffs. Three of the seven com-

pleted negotiating rounds stand out for their achievements in this area.

Inaugural Round in Geneva, 1947. This first round of GATT achieved substantial multilateral tariff cuts, as reductions negotiated in some 123 bilateral agreements were extended on a most-favored-nation basis to all participants. The United States made weighted-average tariff cuts of about 20 percent on dutiable imports. Participating European countries made less substantial cuts, from generally lower tariff levels, because the Smoot-Hawley tariffs had put U.S. rates in a higher range. But the effects of European concessions were not felt until the European nations made their currencies convertible, and abandoned most quantitative restrictions, at the end of the 1950s. The favorable economic climate in the United States allowed it to confer these asymmetric reductions. With most major U.S. industries enjoying trade surpluses, the specter of U.S. protectionism—although not absent—was not dominant.

Tariff concessions in each of the four rounds held over the next 15 years were comparatively minor, in part due to limited negotiating authority from the Congress, which demonstrated an increasing penchant to protect U.S. industry from competition. The combined effect of these talks was still notable, reducing U.S. tariffs by about 10 percent.

The Kennedy Round, 1963–67. The momentum for this round came from the United States, which wanted to ensure continued trading access to the newly formed European Community. The Kennedy Administration paved the way for more rapid progress on tariffs by obtaining enhanced negotiating authority in the Trade Expansion Act of 1962. Not only did this act allow for high tariff cuts (up to 50 percent), but it also eliminated some restrictions that the Congress had earlier put in place to prevent reductions in specific industries. The Kennedy Round of GATT that ensued was even more successful than the first Geneva Round had been. In addition to reducing average tariffs on dutiable imports by more than one-third, it included much broader country coverage, as important trading countries such as Japan and West Germany had since acceded to GATT. Because the negotiating principle changed from an item-by-item focus ("request-offer" in GATT parlance) to a formula approach of automatic 50 percent cuts on all nonagricultural products with exceptions to be negotiated, the product coverage was also more comprehensive than any prior GATT round.

The Tokyo Round, 1973–79. Again using a formula approach, major industrial nations agreed to cut average tariffs by about one-third in the Tokyo Round of GATT. The phased-in reductions from this round were completed in 1987. Table 4–2 shows pre- and post-

Tokyo Round industrial tariff rates, based upon the concessions negotiated during the round and the prevailing trade flows. With weighted-average tariff levels of major industrial nations brought down to levels below 5 percent, and in most cases these tariffs are bound not to increase under GATT, a case can be made that the goal of multilateral tariff liberalization is largely accomplished.

TABLE 4–2.—*Tokyo Round Tariff Cuts by Stage of Processing, Selected Countries*

[Percent]

Country and period	All industrial products	Raw materials	Semi-manufactures	Finished manufactures
United States:				
Rates before Tokyo	6.5	0.9	4.5	8.0
Rates after Tokyo	4.4	.2	3.0	5.7
Percent cut	31	77	33	29
European Community:				
Rates before Tokyo	6.6	.2	5.1	9.7
Rates after Tokyo	4.7	.2	4.2	6.9
Percent cut	29	15	27	29
Japan:				
Rates before Tokyo	5.5	1.5	6.6	12.5
Rates after Tokyo	2.8	.5	4.6	6.0
Percent cut	49	67	30	52
Canada:				
Rates before Tokyo	13.6	1.0	14.8	13.8
Rates after Tokyo	7.9	.5	8.3	8.3
Percent cut	42	48	44	40

Sources: Director General of GATT and Congressional Budget Office.

Yet the average figures mask considerable discrepancies on individual products, as countries have retained high "tariff peaks" on items for which there is strong domestic protectionist pressure, such as textiles, apparel, and footwear (Table 4–3). Moreover, as shown in Table 4–2, nominal tariffs on raw materials and semimanufactures are lower than tariffs on manufactures. This escalated tariff structure, by reducing input costs for manufacturers, results in higher "effective protection" for processed goods than is reflected in the nominal tariff rate on these manufactures. Finally, although country and product coverage has increased considerably since the inception of GATT tariff negotiations, large areas still remain less-than-fully incorporated. Because of previous "special and differential" treatment, developing countries, including those newly industrializing economies that have made rapid strides over the past 20 years, have participated little in either the reduction or the binding of tariffs. Although tariffs have been cut on agricultural products, these cuts have been less even across countries (Table 4–3). Furthermore, agricultural tariffs are bound less frequently than are tariffs on manufactures.

TABLE 4–3.—*Tokyo Round Tariff Cuts by Industry for United States, European Community, and Japan*

[Percent]

Industry	Pre-Tokyo Round tariff rates			Post-Tokyo Round tariff rates			Percent cut		
	United States	European Community	Japan	United States	European Community	Japan	United States	European Community	Japan
Agriculture, forestry, and fisheries	2.2	7.1	18.4	1.8	4.9	18.4	18	31	0
Food, beverages, and tobacco products	6.3	12.4	25.4	4.7	10.1	25.4	25	19	0
Textiles	14.4	9.8	3.3	9.2	7.2	3.3	36	27	0
Wearing apparel	27.8	16.8	13.8	22.7	13.4	13.8	18	20	0
Leather products	5.6	3.7	3.0	4.2	2.0	3.0	25	46	0
Footwear	8.8	11.7	16.4	8.8	11.6	15.7	0	1	4
Wood products	3.6	3.3	.3	1.7	2.5	.3	53	24	0
Furniture and fixtures	8.1	8.5	7.8	4.1	5.6	5.1	49	34	35
Paper and products	.5	7.3	2.1	.2	5.4	2.1	60	26	0
Printing and publishing	1.1	3.2	.2	.7	2.1	.1	36	34	50
Chemicals	3.8	11.5	6.2	2.4	8.0	4.8	37	30	23
Petroleum and related products	1.4	1.2	2.8	1.4	1.2	2.2	0	0	21
Rubber products	3.6	5.3	1.5	2.5	3.5	1.1	31	34	27
Nonmetallurgical mineral products	9.1	5.2	.6	5.3	3.7	.5	42	29	17
Glass and glass products	10.7	9.9	7.5	6.2	7.7	5.1	42	22	32
Iron and steel	4.7	6.2	3.3	3.6	4.7	2.8	23	24	15
Nonferrous metals	1.2	2.6	1.1	.7	2.1	1.1	42	19	0
Metal products	7.5	7.9	6.9	4.8	5.5	5.2	36	30	25
Nonelectrical machinery	5.0	6.5	9.1	3.3	4.4	4.4	34	32	52
Electrical machinery	6.6	9.9	7.4	4.4	7.9	4.3	33	20	42
Transportation equipment	3.3	10.2	6.0	2.5	8.0	1.5	24	22	75
Miscellaneous manufactures	7.8	7.7	6.0	4.2	4.7	4.6	46	39	23

Source: Congressional Budget Office.

Weaknesses of the GATT Framework

The exceptions in product and country coverage for GATT-sponsored tariff reductions conflict with the basic GATT aim of achieving broad-based trade liberalization. Yet these and numerous other exceptions to GATT's main principles to foster open and fair trade have been accepted as necessary compromises in an agreement whose only teeth are those lent willingly by member countries. Because those principles ultimately embodied in GATT had been honored more often in the breach than in the word prior to the formation of GATT in 1947, it is hardly surprising that the initial exceptions list was relatively long. More telling is the fact that, rather than shrink, this list has grown longer. Safeguard clauses allow countries to take steps backward, on the overall goal of liberalization, by imposing quantitative restrictions (which also violate transparency) or by ignoring tariff bindings in the event of balance of payments concerns, injury to domestic producers (the "escape clause"), or a perceived threat to national security.

Discriminatory application of protection often occurs when countries invoke the balance of payments safeguard—as the Europeans did in the 1950s and more recently many developing countries have

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done. More generally, the most-favored-nation principle was sidestepped to allow the continuation of preferential trading areas in the early years of GATT; customs unions and free-trade areas were subsequently provided for even though they offer members better than most-favored-nation treatment and hence discriminate.

The GATT principle of integrity of concessions is weakened by the fact that discipline on domestic subsidies that can undo tariff concessions is not very effective. Integrity can also be violated by the use of safeguards and "grey-area" measures, such as "voluntary" export restraints—quantitative restrictions that violate GATT's spirit but not its letter. As discussed below, these and other nontariff barriers have become the major obstacle to trade liberalization. Although many GATT signatories have accepted codes limiting their use in the Tokyo Round, nontariff barriers remain an area of weakness for GATT. Although GATT does not formally provide exceptions to the use of its dispute settlement procedures, these procedures have proved sufficiently cumbersome and limited in authority that they have failed to replace the threat of retaliation in the resolution of trade disputes.

Limits on product coverage have been made by commission and omission, with the result that GATT is by and large an agreement prescribing the rules of the game for those manufactured products that are not too politically sensitive in the industrial countries. Although agricultural products are formally included, the effective exemption of two of the largest markets, the United States and the EC, has made the agreement largely irrelevant for the principles guiding agricultural trade. In the U.S. case, exceptions were granted at GATT's inception and in a waiver in 1955. And although it clearly distorts trade, the EC's border policy of using variable levies to defend domestic price supports has not been declared GATT-illegal. Due to grey-area measures, trade in textiles and apparel, and more recently in steel, takes place outside of GATT discipline. Trade in services, an expanding component of world output, has never been covered by GATT. Although protection of intellectual property rights is certainly consistent with GATT principles, the lack of specific codes of behavior on intangibles has effectively excluded them from GATT treatment.

Although GATT's membership list continues to expand, effective country coverage remains elusive. Under what is known as "special and differential treatment," wide-ranging exemptions to GATT concessions and disciplines have been granted to developing countries since the Kennedy Round. As another component of special and differential treatment, industrial countries have created "Generalized Systems of Preferences" (GSP), which allow developing countries cer-

tain tariff concessions superior to the most-favored-nation rates of GATT. At the same time, special treatment in GATT has reduced the negotiating leverage of developing countries, preventing them from gaining GATT concessions of most value to them, including reduced tariffs on manufactures and progress on nontariff measures, safeguards, and the treatment of tropical products and agricultural commodities. Although developing countries argue that they need special and differential treatment because of the less advanced states of their economies, their economic progress is hindered by the high tariffs and quantitative restrictions these exemptions have allowed them to maintain.

As the economic disparities among developing countries widen, with the newly industrializing economies such as South Korea, Brazil, Singapore, and Mexico making rapid strides in export markets, pressure is mounting in industrial countries to alter radically the special provisions. Developed countries may unilaterally end the concessionary tariffs granted to these most successful economies, as the United States recently did by graduating Hong Kong, Singapore, South Korea, and Taiwan from GSP status. In a multilateral context, the successful developing countries must be persuaded to accept GATT discipline over their own barriers. The aim is to encourage these better-off economies to provide market access to industrial and other developing country exporters more commensurate with the benefits they themselves enjoy, thereby also increasing the export opportunities for the poorest developing countries.

THE TRADEOFFS IN U.S. TRADE LEGISLATION—TARIFF REDUCTIONS VERSUS CREEPING PROTECTIONISM

Protectionist sentiment was not strong in the immediate postwar period, but some elements opposed liberalized trade. These sentiments have been on the rise. As tariff barriers have steadily fallen, other barriers to trade have arisen. Because the Congress has granted authority to negotiate tariff reductions, while at the same time channeling protectionist sentiment into legislation, a curious pattern has emerged in the trade laws of the postwar period. Trade bills needed by the executive branch for negotiating authority to reduce protection often include provisions that make it easier for firms to qualify for protection, and restrict Presidential discretion to limit protectionist measures.

Examples of this tradeoff are numerous. In 1947 President Truman, bowing to congressional pressure, issued an Executive order requiring all future U.S. trade agreements to include an escape clause that allowed the United States to renege on tariff concessions that injured domestic industry—a measure that became the basis for

GATT's safeguards on these grounds. In the 1950s the Congress adde [1] this provision to statute and strengthened it. In 1955, to win support for further tariff reductions, President Eisenhower proposed that Japan voluntarily limit exports of some cotton textiles. Under pressure from domestic coal and oil producers, the Congress, as part of its 1955 extension of the Trade Agreements Act granted Presidential authority for quantitative restrictions to be used for national security purposes.

To gain congressional support for the Kennedy Round negotiations, in 1961 President Kennedy entered into the Short Term Arrangement that restricted cotton textile exports from 17 countries. In addition to authorizing broad tariff negotiations, the Trade Expansion Act of 1962 authorized the President to withdraw tariff concessions from countries that had "unreasonable" restrictions on U.S. exports and to negotiate quantitative restraints on products that injured U.S. industry. Then, within the same year, the Long Term Arrangement regulating trade in cotton textiles was launched.

Protectionist sentiment grew in the 1970s and 1980s as some U.S. trading partners were perceived not to be offering equal opportunities for trade. Once again, enhanced textile protection, in the context of the Multi-Fiber Arrangement of 1974, was the price paid to gain congressional authorization for negotiating tariff reductions in the Tokyo Round and for fast-track congressional approval of any agreement on nontariff measures negotiated through GATT. The Trade Act of 1974 also reduced Presidential discretion in implementing International Trade Commission recommendations for protection, and introduced Section 301, a provision for countering foreign practices that "unreasonably" restrict U.S. exports.

The record of the 1980s has largely paralleled that of the 1970s. The 1988 *Economic Report of the President* documented the sharp increase in unfairness findings during the 1980s (against "dumping" at below fair prices and government subsidization of exports), cases for which no Presidential discretion exists. Nontariff barriers, for products such as steel, autos, machine tools, and textiles, have been entered into or extended. This Administration has, however, successfully resisted passage of several highly protectionist trade bills. Attempts to pass textile and apparel bills that would have increased protection for one of the most highly protected industries in the United States have been twice successfully repelled. A potentially disastrous trade bill that would have limited trade based upon bilateral trade balances has been successfully modified. While the Omnibus Trade and Competitiveness Act of 1988 has some troubling features, it also authorizes the President to reduce tariffs by up to 50 percent under the current Uruguay Round GATT negotiations.

This Administration has vigorously sought ways to expand free trade. Its attempts to open foreign markets to U.S. products have won some notable successes, while the resort to protectionist retaliation measures have been infrequent. It inaugurated the Caribbean Basin Initiative, and won congressional extension of the Generalized System of Preferences, in order to provide developing countries with ready access to U.S. markets. The United States-Israel Free-Trade Agreement was the first such agreement for the United States, while the United States-Mexico Framework Understanding should help to improve trade and investment flows between the two neighbors. Finally, the United States-Canada Free-Trade Agreement will bring tremendous benefits to both sides.

Notwithstanding the pressures for protectionism over the past 40 years, the move toward a liberal trading order has been remarkable. Tariffs on most products have been reduced to low levels, and trade flows and economic growth have responded accordingly. From 1950 to 1986 world real GDP has increased by 350 percent, while world trade, in real terms, has grown by more than 800 percent. The task for the future is to ensure that this progress continues, and that nontariff barriers are reduced.

THE SPREAD OF TRADE-DISTORTING MEASURES

Because most nations' tariffs are "bound" by GATT, the signs of increased protectionism in the 1970s and 1980s are not found in higher tariffs, but in other, often more hidden, forms of protection. Using a potentially limitless array of measures, governments distort trade flows and production decisions by subsidizing exports and domestic production, and by constricting the flow of imports. Import barriers include: assessed duties on unfairly traded products; "hard-core" nontariff barriers, such as quotas and voluntary export restraints or voluntary restraint agreements, which are poorly disguised quantitative restrictions; and "softer" nontariff measures, such as technical and health standards, which tend to distort trade if imposed for nonscientific reasons or applied in a discriminatory fashion. Many of these measures are difficult to quantify; no precise estimates of their tariff-equivalents, or their trade-distorting impacts, exist.

Yet convincing qualitative evidence of this rising interventionist and protectionist trend is available. One example of such evidence is the amount of domestic subsidies that governments supply to private industries and public corporations. Because these subsidies alter domestic production, they may distort trade flows and comparative advantage. As shown in Table 4–4, their amount has increased as a percent of GDP from 1960 to 1986 for most countries, the important

exception being the United Kingdom, whose subsidy rate peaked in the mid-1970s. Two additional factors in the table qualify this observation. First, it would appear that the trend toward greater subsidization was reversed for many countries in the 1980s. Second, although the U.S. subsidization rate has grown, it is still significantly below that of other countries, reflecting the more market-oriented approach, and the sparsity of public corporations, in this country.

TABLE 4–4.—*Growth of Subsidies in Selected OECD Countries, 1960–86*

[Percent of GDP]

Country	1960	1970	1975	1980	1986
United States	0.2	0.5	0.3	0.4	0.6
Japan	(1)	1.1	1.5	1.5	1.1
West Germany	.8	1.7	2.0	2.1	2.1
France	1.6	1.9	2.0	1.9	2.2
United Kingdom	1.9	1.7	3.5	2.4	1.7
Italy	1.2	1.3	1.9	2.0	2.3
Canada	.8	.9	2.5	2.7	2.0

1 Not available.
2 Data are for 1985.
Note.—Based on national income accounts.
Source: Organization for Economic Cooperation and Development.

Countries also distort trade and compete unfairly for exports by providing export subsidies. In agricultural trade, many countries, including those in the EC and the United States, provide subsidies or rebates for exports of agricultural goods. For manufactured goods, the more common means is through "export financing," which provides subsidized credit to importers of the products. Data from the Organization for Economic Cooperation and Development (OECD) show that the implicit subsidy in export financing by 14 member countries increased by more than two-thirds from 1979 to 1982. Following successful U.S. efforts in the early 1980s to negotiate increased discipline over export credit subsidies through the OECD Export Credit Arrangement, the subsidy component in export financing has decreased substantially.

Foreign export or production subsidies unfairly distort trade, and impose burdens on domestic producers of like products. Although these foreign subsidies may actually benefit the domestic economy if it is a net importer of the subsidized good, GATT articles and the laws of many nations, including those of the United States, recognize these subsidies, as well as dumping, to be distortive and unlawful actions. Under U.S. law, dumping occurs when a foreign firm sells in the import market at a price below the price charged in the home market, or below costs as estimated by the Department of Com-

merce. Under the law, the United States may, subject to certain injury tests, impose duties to offset this dumping margin. Similarly, U.S. law allows duties to be imposed to "countervail," or offset, unfair advantages that accrue to foreign firms arising from government production or export subsidies.

Regardless of the intentions, or economic merits, of laws restricting dumping and foreign subsidization, their net impact can be protective. A finding that dumping has occurred can depend on estimates of costs of production if price data for the foreign market are not available. Precise cost estimates are often difficult to obtain, so a foreign firm may be found erroneously to be in violation. Furthermore, although many petitions may ultimately be rejected under these statutes, the filing, or even threat of filing, of unfair trade cases can restrict imports. It is costly for foreign firms to defend themselves against a dumping charge. Moreover, in the event of an affirmative finding, the level of import duties imposed retroactively is uncertain. The threat of such action is likely to raise prices foreign firms charge, thereby having a protective effect similar to a tariff, except that the revenue from protection is transferred from U.S. taxpayers and consumers to the foreign producer.

These legitimate procedures to counteract foreign unfair trade practices can result in cartel-like effects. Subsidization, and other distortions, are rife in the world steel market. In addition to subsidizing domestic producers, EC countries have used programs limiting imports (either through voluntary restraint agreements or minimum import prices) and internal production quotas to "rationalize" production. In 1982 the U.S. steel industry filed more than 130 dumping and countervailing duty petitions against steel imports from various foreign countries, including EC members. An extensive Department of Commerce investigation found subsidies, in some cases exceeding 20 percent, against some producers in the United Kingdom, Italy, France, and Belgium. It also found that other European producers, including the large West German producers, were either unsubsidized or received *de minimis* subsidization. The results were troubling for EC countries whose producers were found to be subsidized, as countervailing duties against their producers would effectively exclude them from the U.S. market. Ultimately, in October 1982, European producers agreed to a voluntary restraint agreement encompassing carbon steel exports from the EC to the United States.

The steel industry continued to face strong competition from countries not parties to the agreement. The industry proposed to file a large number of complaints that would have burdened the agencies responsible for making "unfairness" determinations and would have raised costs to importers. The alternative chosen was to negotiate ad-

ditional voluntary agreements to reduce imports. The current agreements, reached with 19 countries plus the EC, are estimated to have an annual cost to consumers of several billion dollars and are scheduled to expire September 30, 1989. The steel industry is currently operating near capacity and, for the first time since 1981, reported significant profits in 1988.

While the United States is the dominant user of countervailing duty laws, other nations use antidumping provisions more aggressively. Of 460 countervailing duty cases reported to GATT between 1980 and 1986, more than 60 percent were initiated in the United States. But, of the 1,272 antidumping cases reported during this same time period, 27 percent originated in the United States, whereas 33 percent came from Australia, 22 percent from the EC, and 18 percent from Canada.

These actions significantly increased in the United States and abroad during the 1980s. In the United States, for example, the number of countervailing duty cases increased from an annual average of 21 during the period 1975–79 to an annual average exceeding 40 during the period 1980–86. In the EC, the number of antidumping cases reported increased from 71 for 1971–79 to 280 for 1980–86.

In contrast to antidumping and countervailing duty provisions, the protection offered through the "hard-core" nontariff measures falls largely outside of GATT jurisdiction. Table 4–5 represents one crude attempt to compare the prevalence of these barriers across countries and over time. It shows the percent, in value terms, of a country's imports that are covered by quantitative restrictions, voluntary export restraints, and nonautomatic licensing. While the numbers may not be quantitatively important, they are qualitatively instructive. They make clear that the United States is not the main offender. It is noteworthy that these barriers particularly seem to affect the exports of developing countries.

TABLE 4–5.—*Industrial Country Imports Subject to "Hard-Core" Nontariff Measures, 1981 and 1986*

[Percent]

Importer	Source of imports			
	Industrial countries		Developing countries	
	1981	1986	1981	1986
United States	9	15	14	17
Japan	29	29	22	22
European Community	10	13	22	23
All industrial countries	13	16	19	21

Source: The World Bank, *World Development Report 1987.*

SOURCES OF INCREASED PROTECTIONIST SENTIMENT

Many explanations have been cited to account for the increase in protectionist sentiment. These include the deterioration in the U.S. merchandise trade balance; the continuation of foreign subsidies and nontariff barriers; declining net exports in traditional U.S. strongholds, such as agricultural and manufactures; and a protracted period of inflation and high unemployment during the 1970s and early 1980s, which contributed to the notion that somehow imports were responsible for lost domestic jobs. Other contributory factors include a perception that the United States had lost its technological "superiority" and even its "competitiveness," and that an industrial strategy, coupled with protectionist trade policy, was needed to regain American superiority. These feelings were probably accentuated by a general belief that U.S. exports were subject to unfair barriers, a position that might have had some merit as foreign agricultural protection increased, and as the importance of service-type industries that were not (and still are not) subject to GATT discipline increased.

Despite popular beliefs, trade restrictions are inappropriate tools for attempting to reduce trade deficits. The trade balance reflects the discrepancy between national output and national expenditure, and little reason exists to expect protection to alter either of these significantly. While import protection in automobiles may reduce the trade deficit in that sector by increasing consumption and production of domestic autos, this reduction can be achieved only by diverting the resources required to expand auto production from other more productive uses within the economy.

The notion that imports cost American jobs is probably the most common argument for protection. While it is certainly true in a narrow sense that employment in an import-competing sector might decline if import protection were reduced or eliminated, this fact does not imply that total U.S. employment would fall. Rather, protection in that sector reduces the resources available for expanding output, and employment, in more efficient export sectors. Most studies of the consumer cost per "job saved" through protection put this cost at more than $100,000 per year, far exceeding the typical earnings in the affected industry. Moreover, protective policies that reduce foreign exports to the United States invite retaliation, which reduces the demand for U.S. exports, causing further inefficiencies in the allocation of resources and imposing extra costs on consumers.

Certainly unexpected increases in imports can cause temporary unemployment as workers retrain for new jobs. But the appropriate response is to facilitate labor adjustment, not to discourage it through permanent protectionist policies. Trade Adjustment Assistance, first introduced as part of the Trade Expansion Act of 1962 and signifi-

cantly liberalized by the Trade Act of 1974, may be viewed as one attempt to ease this adjustment and to mollify domestic opposition to trade liberalization. The program, which is designed for firms and workers hurt by import competition, provides financial, technical, and retraining assistance to make firms more competitive and to assist relocation of workers. If adjustment through normal market forces is allowed, the displaced workers will find employment in other industries. Currently, the average period of unemployment is a brief 13 weeks. If permanent protection is offered, adjustment never occurs, and the cost of the policy remains forever. The rules governing explicit protection under the escape clauses in U.S. trade law (Section 201) and in GATT (Article XIX) recognize this danger and require relief to be temporary.

The recent economic record demonstrates that imports do not destroy domestic jobs. From 1982 to 1987 the volume of U.S. imports increased by more than 65 percent, while U.S. real GNP expanded by more than 21 percent, and employment by 13 percent. Meanwhile, West German imports increased by over 27 percent, its GNP grew by nearly 12 percent, and employment stagnated. During this period the U.S. merchandise trade balance fell sharply, while the West German trade balance rose by more than $45 billion.

Recent proponents of protectionism have focused on the use of "strategic trade" policy to promote selective, presumably high-technology, sectors. The essential notion is that economies of scale and learning-by-doing render the competitive paradigm inappropriate in these industries. Trade policy, by preserving the home market for domestic firms, or by promoting selected industries and their exports through subsidies, can be used effectively to prevent foreign competition and to increase the monopoly profits domestic firms earn from foreign sales.

These policies of targeting industries with import protection and export subsidies are harmful. The import restrictions hurt both domestic consumers and foreign producers. Because foreign countries may retaliate in kind, a situation can arise in which all countries are worse off, but no country has the incentive to reduce tariffs unilaterally. For manufactured goods, the costs of protection are likely to be even greater because the resulting market segmentation reduces the inherent benefits derived from economies of scale and product diversity. Promoting particular sectors through export subsidies is equally costly. The subsidies impose costs on taxpayers, are inconsistent with international trading rules, and invite retaliation.

Moreover, the argument for government activism is predicated on the notion that governments can effectively identify those industries that are at the forefront of technological innovation, and can devise

appropriate trade policies to foster their dominance. This kind of fine-tuning, reminiscent of attempts to fine-tune the macroeconomy, presumes that policymakers have access to enormous quantities of information, wisdom, and objectivity. To be successful it also would require government officials to be able to foresee the major consequences of their actions.

If government pursues such activist policy, it is reasonable to ask what the policy response will be when it mistakenly backs a losing industry. Will it be willing to remove protection, or will it feel compelled to shelter an inefficient industry behind a tariff wall in order to avoid facing up to the mistakes it made? If business executives err, they are forced to face the cost of their decisions through the discipline of the market—lower prices, reduced output, and even bankruptcy. No such discipline is imposed on government officials, who can reach deep into the pockets of taxpayers and consumers to hide their failure. The reality seems to be that protection has been granted to sunset, not sunrise, industries and that this protection is hard to remove.

POLITICAL ECONOMY OF PROTECTIONISM

One possible explanation for continuing protectionist pressures is that economic efficiency is not all that matters; notions of equity and fairness also have considerable influence on public policy. In most developed countries, government agricultural programs, as well as the protection of some industries, are typically justified on these grounds. However, these objectives can be achieved through policy instruments superior to the trade-distorting devices that have been used.

A more likely explanation relates to other distributional consequences of trade-distorting policies. The benefits are concentrated among the relatively small number of people employed or owning assets in the protected industry. Meanwhile, the higher overall costs are paid for by the large numbers of taxpayers who foot the bill for government programs, and of consumers who pay higher prices for the goods. Because it is difficult to be informed on every issue, the many who are adversely affected by protection may not be aware of these costs. Yet those few who stand to gain from protection are likely to be well aware of the benefits. Just as with pork-barrel projects, the gainers are far more likely to make their voices heard than are those who are hurt.

It is not surprising that the Congress has traditionally been more protectionist than the President. The President, regardless of his party, responds to a national constituency, and thus needs to consider the impact of protectionist policies in a much broader context.

Senators and Representatives respond to smaller constituencies, wherein those few who gain from protection make their opinions known forcefully. If producers and workers in enough regions are affected, or if they are heavily concentrated in some regions, they can influence legislation. This President, like most postwar Presidents, has represented the voice of free trade within the government. Laws that attempt to reduce the President's discretion or authority increase the protectionist thrust of trade policy.

Protectionist efforts are most likely to be resisted when the distributional costs of protection are also highly concentrated. The steel agreements hurt domestic steel users, and recently efforts have been mounted by some of them, such as Caterpillar, to oppose renewal of the voluntary restraint agreements. Fabricators of copper wire and other copper products successfully lobbied in 1984 against protection for the copper industry, after an International Trade Commission decision ruling domestic copper producers had been injured by imports. Similarly, because the higher semiconductor prices that followed an agreement to stop Japanese dumping hurt high-technology American industries that use this product, industry associations representing the two groups have been working together to fashion policies that will be mutually beneficial and, presumably, less protectionist. By contrast, consumers of final products receiving protection, such as textiles and apparel, are in a relatively weak position to protest the costs of import restrictions.

The benefits to producers in the protected industries can be significant, and include increased profits on both the inputs and final products. One study of trade restrictions estimated annual gains to producers at $3.8 billion for carbon steel products, $2.6 billion for auto firms, $5 billion for dairy products, and more than $20 billion for textile and apparel firms. Depending on how they are administered, some of these programs impose substantial costs on foreign producers, while others essentially transfer, through higher import prices, additional benefits to foreign firms. The same study estimated that U.S. restrictions transferred benefits of $2 billion to foreign steel producers, $2.2 billion to foreign (Japanese) auto firms, and $1.8 billion to foreign textile firms. Even if these estimates are off by a factor of three, they are still prizes well worth pursuing. The even higher costs of these prizes are borne by a large group of consumers and taxpayers.

Not surprisingly, considerable real resources are spent in petitioning governmental groups that make and implement policy. Everyone, whether having spent time in Washington or not, is aware of the effort, time, and resources lobbyists spend trying to influence trade policy. Nor is the lobbying activity restricted to representatives of

U.S. firms. Department of Justice records show that in 1986 Japan spent more than $11 million on economic lobbying activity in the United States, Indonesia spent more than $7 million, and South Korea more than $4 million. The resources spent on these lobbying activities are wasted in an economic sense because they are withdrawn from potentially productive activities.

Protection in the form of licensing and quotas may lead to even greater inefficiency than tariffs. If the quotas are auctioned off, as in Hong Kong where licenses to export clothing to the United States may sell for 40 percent of the price of the clothing, then no additional inefficiency occurs. But if the quotas are allocated in some other manner, as is usually the case, then people will be willing to spend scarce resources trying to obtain them. Because the ownership of quotas confers private gains, but no gains to the economy as a whole, this rent-seeking activity is wasteful. It can be especially deleterious in less developed countries, as studies indicate that the implicit value of import licenses may have been as high as 7.3 percent of GNP in India, and 15 percent of GNP in Turkey.

THE SPECIAL THREAT OF NONTARIFF MEASURES

The opposing postwar trends toward lower tariffs, but greater use of nontariff measures, raise two related questions. First, does it matter what form of protection is used; second, why has this change in policy mix occurred?

Most economists view nontariff measures as being more costly than tariffs. Nontariff measures may circumvent U.S. laws and GATT, and may be negotiated, as was the case with the earlier restraint on Japanese car exports to the United States, even when there is no determination of an unfair trade practice, or of injury to domestic firms. Unlike escape clause relief, there is generally no provision for reducing protection over time ("degressivity"), nor is a formal time limit imposed on the protection. The agreements do expire, but they may be renegotiated, as has been the experience in textiles and apparel. Producers in these industries appear determined to maintain protection.

Quantitative restrictions are also inferior to tariffs because they cartelize the market. By granting firms more monopoly power, they lead to even higher prices. Studies indicate the restraints on Japanese automobile exports increased the price of Japanese cars in the United States by up to $1,000, and increased the price of U.S. cars by about $400. Moreover, because imports cannot respond to increased demand, unexpected shortages are more likely to develop under quantitative restrictions. Recent shortages of domestic steel forced domestic users to import more costly finished products not covered

under the agreements. Hence, quantitative restrictions can undermine the competitiveness of downstream industries even more than do tariffs.

Another problem that inevitably arises is how to apply the nontariff measures. Whereas tariffs will typically be applied on a most-favored-nation basis, quantitative restrictions are usually imposed selectively, with specific limits granted to each exporting nation. The issue of selectivity versus most-favored-nation treatment is of great concern to developing country exporters, as well as to importing nations. Apart from transferring tariff revenues abroad, selectivity further distorts trade, as U.S. importers cannot import from the least expensive, or highest quality, foreign supplier.

However, under flexible exchange rates, domestic firms wishing to avoid risk may prefer quantitative restrictions. Unpredictable movements in exchange rates can affect the domestic currency price of foreign products, making the amount of protection afforded by a tariff uncertain. Quantitative restrictions insulate the level of imports, and hence domestic price, from foreign price or exchange-rate movements.

Lack of transparency often makes nontariff measures more acceptable than tariffs from a domestic political standpoint. Whereas consumers readily recognize tariffs as a form of taxation, they are unlikely to perceive the similar effect of quantitative restrictions, because the price changes are hidden. Nontariff measures are also usually more acceptable to exporting nations. The use of tariffs under GATT's escape clause requires compensation to foreign exporting nations, or allows them to retaliate. Because voluntary restraints fall in a grey area outside of GATT jurisdiction, the country imposing them need not worry about these provisions. Exporters are compensated indirectly because they can charge higher prices for the reduced amount of goods being shipped, or can divert exports to higher profit items. Naturally, the losers are consumers and taxpayers in the importing country.

A more transparent system would be highly preferable for the population at large. If the tariff-imposing nation had to reduce other tariffs as compensation, or if some of its exporting industries faced higher retaliatory tariffs abroad, an active constituency to limit the extent or length of protection would appear.

The United States has suggested one innovative strategy for dealing with nontariff measures in the Uruguay Round negotiations on agriculture. Before the effects of existing nontariff barriers can be reduced, the proposal calls for "tariffication" of these barriers—that is, converting them into tariff equivalents that will then be the basis for negotiations on barrier removal. The Japan beef and citrus agree-

ment is a good example of the potential of this approach. The agreement calls for the phase-out, over a 3- to 4-year period, of import quotas on beef and oranges, and of Japan's Livestock Industry Promotion Corporation's import management operations. These nontariff measures will be replaced by tariffs that are scheduled to decline to 50 percent by 1993.

While confining protection to tariffs will not cause protectionist pressure to disappear, it may create stronger political opposition to increased protection. It will also make it easier to negotiate mutual reductions in trade barriers. Paradoxically, this policy may imply, as some have suggested, that laws should be modified to make it easier for firms to obtain temporary protection under escape clause criteria so that the pressure for resorting to nontariff measures is reduced.

TEXTILES AND AGRICULTURE—CASE STUDIES IN PROTECTION

Textiles and agriculture are two of the most heavily protected sectors in virtually all industrialized countries. No doubt part of the explanation is historical, given the importance of these sectors in the industrialization process. Yet implicit and explicit support and protection have been provided for protracted periods of time, with program costs far in excess of costs associated with most other forms of government intervention. Industrial country protection is significant not only for the costs imposed on domestic consumers, but also for the burden placed on developing economies.

Textiles and Apparel

Protection has been the rule rather than the exception in these industries. During the 19th century the U.S. industry developed behind high tariff walls. During the interwar period, the Great Depression and increased competition from Japan led to increased protection. Many industrial countries resorted to quotas; in 1930 the United States raised tariffs to 60 percent on woolens and 46 percent on cottons. In 1936 Japan and the United States reached an agreement to restrict Japanese exports, setting a precedent for the "voluntary" restraints of the postwar period.

Postwar liberalization of the industrial world's trade did not extend fully to Japan. Although Japan entered GATT in 1955, many countries continued to restrict textile imports from that country under Article XXXV, an annex specifically allowing nonapplication of GATT provisions to new members. The inaccessibility of the European market diverted additional exports to the United States. In 1956 the Congress authorized negotiations to limit textile imports. The following year Japan again agreed "voluntarily" to limit exports to this country.

This limit on Japanese exports led to increased U.S. imports from other countries, notably Hong Kong, whose 1960 exports to the United States surpassed Japanese levels. In response, GATT adopted the "Decision on the Avoidance of Market Disruption," which allowed restrictions on a discriminatory basis, even if actual injury had not occurred. This decision became the basis for the ensuing Short Term Arrangement (1961) and the more comprehensive Long Term Arrangement (1962).

But the Long Term Arrangement did not stem domestic protectionist pressures. From 1961 to 1972 textile imports increased by 135 percent in real terms, while apparel imports soared by well over 400 percent, with much of the growth in man-made fiber products not covered under the Long Term Arrangement. In response, the United States negotiated several bilateral agreements restricting imports of products made from wool or man-made fibers. The Multi-Fiber Arrangement, negotiated in 1973 and implemented in 1974, legitimized these bilateral agreements and provided a framework for negotiating additional bilateral export restraints. Subsequent Multi-Fiber Arrangements have extended the material, product, and country coverage, so that roughly 60 percent of world trade in textiles and apparel is now restricted, the main exception being trade among the industrial countries (excluding Japan). Recent agreements have added a "call" provision that allows the United States unilaterally to restrict products not previously covered under the agreements in response to an import surge. The current agreement, Multi-Fiber Arrangement IV, is scheduled to expire in 1991.

While the nominal tariff rates on textiles and on apparel average around 10 percent and 20 percent, respectively, the combined protection afforded by tariff and nontariff barriers is nearly 30 percent for textiles and more than 50 percent for apparel. The annual estimated cost to U.S. consumers of the protection exceeds $20 billion. Furthermore, world restrictions on trade in textiles and apparel impose an enormous burden on developing economies. These products account for 80 percent of Jamaica's manufactured exports, 72 percent of Pakistan's exports, and 89 percent of all exports from Bangladesh (100 percent of its manufactured exports). The restrictions limit exports to the main developed economies and divert sales to other importers. Some exporting nations allocate export quotas to Multi-Fiber Arrangement countries among domestic producers based upon those firms' exports to non-Multi-Fiber Arrangement importers. This method of allocating quotas leads to overshipments to these latter importers, exacerbating the pressure for additional worldwide protection.

The combined textiles and apparel sector remains one of the largest manufacturing sectors in the United States, employing more than 1.8 million workers. Over the past 25 years labor productivity in the textile industry has grown by more than 4 percent per year, above the national average, while productivity in apparel has grown by an average of 2.8 percent since 1973. Employment declined through 1986, partly because of productivity increases. In 1987 and the first half of 1988 employment stabilized in apparel, and grew in textiles. In real terms, domestic textile production has increased by more than 140 percent since 1960, while apparel production has increased by more than 60 percent. Profits rose in 1987 and the first half of 1988.

Yet the pressure to protect continues. In recent years the Administration has repeatedly had to fight even more protectionist legislation, using vetos that were sustained in 1985 and 1988. This case is clearly not one of temporary protection to allow adjustment, and the protection cannot be justified under any escape clause criteria. The question is whether tariffication could help reduce this pressure, because the social costs of this protectionist policy remain high.

Agriculture

Agriculture, like textiles, is an important industry whose relative economic significance has waned. Employment in American farming, now just over 3 million, has declined both in absolute and relative terms in the postwar period. Similarly, the value of agricultural output as a share of GNP has declined sharply during this period. Agriculture has maintained an important, although declining, share of total U.S. merchandise exports. Exports remain crucial to the vitality of the agricultural sector.

For the world as a whole, output of agricultural products has grown by about 150 percent over the period 1950–86, in contrast with the nearly 600 percent increase in manufactures. Although the volume of world trade in agriculture has increased more rapidly than agricultural output, the relative share of agriculture in world trade has declined from nearly 50 percent in 1950 to less than 15 percent in 1986.

The economic and political importance of this sector is apparent from the types of support programs that most developed economies maintain. Unlike textile programs, those in agriculture have involved both domestic and border measures, and have not only affected the volume of trade, but in several cases also actually reversed trade patterns. In terms of their impact on both taxpayers and consumers, these policies have tended to become more costly. One estimate indicates that the cost of farm policies to taxpayers and consumers in the OECD countries was about $200 billion in 1986.

The United States began using price supports and land diversion programs to increase farm family incomes before World War II. These programs continued to evolve after the war. However, relatively high market prices during the 1970s for the major crops covered by these support programs reduced the cost of farm programs to taxpayers. Program changes made in 1981 and 1985, however, combined with relatively low market prices to cause unprecedented budget outlays as well as record nominal net farm incomes. As measured in 1982 dollars, the total taxpayer cost of farm programs, which varies with market conditions, increased from under $4 billion in the early 1950s to more than $20 billion in the mid-1980s.

Because U.S. programs typically involve price supports or deficiency payments, and because the United States is a major exporter of many agricultural products, border measures are not usually needed to keep out foreign products. In some products, such as dairy, sugar, beef, and peanuts, the United States does maintain quantitative barriers on imports to support domestic producer prices. Apart from the dairy program, these other programs impose little direct burden on taxpayers, but they do result in significantly higher consumer prices. Under the domestic sugar program, for example, import quotas are adjusted annually to achieve a high domestic price. While both the protective effect and costs of the program depend upon the world price and the domestic stabilization price, current protection levels exceed 100 percent, and the estimated annual consumer costs for 1987 exceeded $3 billion. The use of export quotas rather than tariffs, and the allocation of these quotas to specific foreign exporters, resulted in a transfer to these exporters of nearly $300 million, reflecting the difference between U.S. and world prices. The additional revenue to domestic producers for 1987 was about $1.7 billion. These benefits are highly concentrated among producers, resulting in an average transfer to sugar growers of $50,000 to $100,000 per farm.

Regardless of the crop or the country, government programs significantly benefit farmers in developed countries. As documented in the 1988 *Economic Report of the President*, the producer subsidy equivalent, which measures the estimated percentage decrease in gross farm income that would occur if all of a country's internal and border measures were removed, increased sharply for the United States, from 11 percent in 1979 to 34 percent in 1986. However, U.S. farmers would benefit if all nations were gradually to remove their distortionary agricultural policies, as the President has proposed as part of the Uruguay Round negotiations.

The Common Agricultural Policy of the EC entails high producer prices and a variable levy on imports that keeps European consumer prices well above world prices. This subsidy program has trans-

formed the EC from a grain importer to a surplus producer. To dispose of these surplus stocks, the EC adds an additional subsidy to promote its exports. In the 1987 budget year the EC received about $1.9 billion from import levies, and paid out $10.8 billion for export subsidies. These export subsidies increased significantly during the preceding decade. While benefiting importers, the subsidies create conflicts with other agricultural exporters, including the United States and producers in developing countries. The total budget of the Common Agricultural Policy was about $27 billion in 1987, and represented about 64 percent of the Community's total budget.

Japan remains a major agricultural importer despite the fact that its agricultural protection remains among the highest for developed countries. Estimated *ad valorem* tariff equivalents for many agricultural products, including rice, wheat, barley, sugar, and beef, were all above 100 percent in the middle 1980s. Domestic rice prices currently exceed five times world prices. As shown in the 1988 *Economic Report*, Japan's producer subsidy equivalent of 79 percent is well above that of any other major industrial country, and this rate had increased significantly in less than a decade. These programs result not only in taxpayer costs, but in higher prices for Japanese consumers, who spend a considerably larger percent of their income on food products than do consumers in the United States. These barriers remain because Japanese farmers are a politically potent group, and they have vigorously opposed liberalization attempts.

As with textiles, many of these agricultural programs are outside of GATT discipline, largely because of U.S. desires in the early years of GATT. The high degree of protection and subsidization in agriculture has led to significant international tension. This tension, and the massive distortion that results from these policies, constitute a major impetus behind the sweeping U.S. proposal in the Uruguay Round to eliminate all market-distorting agricultural policies. Moreover, a large portion of U.S. market-opening activities is directed toward agricultural products. These and other market-opening activities are the subject of the next section.

FREE AND FAIR TRADE

In the early postwar period the United States was prepared to accept the fact that its trading partners used nontariff barriers more than it did, because the primary U.S. aim was to foster recovery overseas. As recovery proceeded and the income gap decreased, however, Americans came to think that the responsibility for fostering trade liberalization should be shared more equitably.

Domestic protectionist sentiment has increased during the past two decades. Recently, U.S. exporters have sought relief from foreign practices that were perceived to treat their products unfairly. This sense of unfairness was exacerbated by declining U.S. agricultural exports, and the increasing importance of services and intellectual property rights, neither of which was protected under GATT discipline.

Despite this adverse political climate, this Administration has managed to sidetrack some major pieces of protectionist legislation. Political pressure was adroitly diverted toward an effort to open foreign markets to American products through the use of Section 301 of the Trade Act of 1974. The spirit of this provision is to help the government carry out its legitimate roles in fostering and maintaining a free and fair trading system. Implementation of the provisions raises some complex issues, however, especially when international agreements do not cover the alleged unfair foreign practices.

Under Section 301, as amended, the United States Trade Representative is authorized, subject to Presidential direction, to take specific actions to obtain the elimination of unfair foreign trade practices. These practices include, but are not limited to, policies that restrict U.S. exports to that country, that undermine U.S. export markets, and that deny American residents the protection of intellectual property rights. Although the ultimate sanction available to the United States under the statute is retaliation, the purpose of the process is to obtain successful resolution of the conflict, not to close American markets. In fact, few of the cases brought under this Administration have resulted in retaliatory tariffs.

If the unfair practice violates GATT obligations, then the usual dispute settlement mechanism of GATT can be used. The usefulness of Section 301 action derives from the weakness of GATT's dispute settlement procedures, and its limited coverage.

SECTION 301 IN PRACTICE

Since Section 301 was passed in 1974, about 70 cases have arisen, nearly 50 during this Administration. More than 20 cases have been initiated since 1985, 10 of which were initiated by the Administration without a private petitioner. Nearly one-half of the petitions have dealt with raw and processed agricultural products, including grains, beverages, leather, and tobacco products. The other major sources of petitions include eight filed by steel producers, nine involving service industries (such as insurance and films), four filed by footwear producers, and several recently filed by the Pharmaceutical Manufacturers Association involving intellectual property rights. The basis of many of these petitions mirrors the weakness in GATT disciplines in

agriculture, and the lack of coverage for intellectual property rights and services.

The Section 301 process of market-opening has resulted in important agreements. The Japan beef and citrus agreement, which was negotiated under the threat of imminent Section 301 action, has been mentioned. Under earlier Section 301 actions the Japanese agreed to lower tariffs and end the state monopoly's discriminatory treatment of imported tobacco products. Separately they also agreed to reduce some tariffs, on a most-favored-nation basis, to compensate for GATT-illegal leather and leather footwear import quotas. Agreements with South Korea include one that increased foreign access to the domestic insurance industry, another that resulted in sweeping modifications of Korea's laws and regulations concerning intellectual property, and a third liberalizing the Korean market for imported cigarettes.

The emphasis on market-opening in the trade law has facilitated the conclusion of bilateral agreements even without Section 301 action. Examples include agreements with Japan to increase access to their domestic construction industry, to modify the procedures for government procurement of supercomputers, and to allow foreign attorneys to practice their home law in Japan. Partly because of U.S. pressure, both South Korea and Taiwan significantly reduced their tariff barriers, and Taiwan improved its intellectual property rights protection. In a recent case, U.S. petitioners voluntarily withdrew their petition against South Korea after an agreement was announced to open that country's film market significantly.

Attempts to define unfair trade practices, for the purposes of Section 301-type actions by any country, can raise complex issues. A country might, for example, undertake deregulation or privatization measures for purely domestic reasons. Nevertheless, these measures are likely to confer benefits on some foreign firms, particularly because government procurement processes are typically less open than private procurement procedures. Should the liberalized country be entitled to compensatory trade liberalization from others for its policy? This issue is unresolved and is a potential source of friction.

Another issue concerns the extent to which any government intervention in the economy is deemed to be unfair. The United States typically has more of a *laissez-faire* attitude toward economic development than other countries, particularly—but not exclusively—those in the developing world. Many of these latter countries practice active government intervention. This intervention may include subsidies to specific domestic industries, which necessarily distort trade patterns, or regional subsidies. While the latter subsidies can be trade neutral in an overall sense, nevertheless they are likely to hurt some (and

help other) U.S. industries. The law is unclear as to whether such regional subsidies are unfair.

In pursuing action under Section 301 other complex problems arise. Petitioning firms want to use the process to their advantage, which sometimes means they are more interested in obtaining domestic protection from foreign competition than in opening foreign markets. Such efforts must be resisted. At times the executive branch may find itself under pressure from a domestic industry to pursue Section 301 action against a foreign practice that harms one U.S. industry but actually benefits the country as a whole. For example, if a foreign country taxes exports of a primary product, this policy will discourage domestic production and exports of that primary product, but will encourage exports of processed goods derived from it. American firms that produce the processed product will be hurt, but U.S. producers of the primary product will benefit. If the processors initiate a Section 301 action, should the United States attempt to eliminate this foreign policy because it is "unfair" and burdens U.S. processors, even though the policy's overall impact on the U.S. economy may be beneficial?

In some cases tangible evidence of discrimination against U.S. products may be difficult to obtain. In the Japan semiconductor case, an agreement was reached to end Japanese dumping of semiconductors in the United States and third-country markets and to increase access for foreign firms in the Japanese market. A subsequent sharp increase in prices raised costs for industries using semiconductors as inputs, thereby weakening the competitiveness of these high-tech firms. Tangible evidence of Japanese discrimination against U.S. firms was hard to document. The criteria used for gauging market access was the U.S. share of the Japanese semiconductor market. Because this share has not increased sufficiently, the United States has put 100 percent tariffs on $165 million worth of selected Japanese products. This is one of the relatively few such retaliatory tariffs that have resulted from this Administration's market-opening trade policy.

RECENT MODIFICATIONS IN THE LAW

Several sections of the Omnibus Trade and Competitiveness Act of 1988 dictate significant changes in the U.S. campaign against unfair trade practices. Mandatory action is now required, subject to a limited number of exceptions, if the foreign practice is found to violate a trade agreement or to be unjustifiable and a burden to U.S. commerce. The removal of discretion is likely to lead to more frequent resort to retaliation. Moreover, this provision may make it harder for the United States to obtain agreements from foreign countries to modify their practices. Under U.S. law, countries that agree to under-

take measures to eliminate practices that previously were not subject to mandatory action will be deemed to have entered into a trade agreement and henceforth be subject to mandatory retaliation if the proposed changes are not fully implemented. This modification in the law may reduce the incentive for countries to agree to alter their policies.

Other sections of the law require the U.S. Government to self-initiate Section 301 investigations and to name specific countries as "unfair traders." Section 1302 of the 1988 act requires the identification of priority foreign practices, the elimination of which would have the most benefit for U.S. commerce, and of priority countries that undertake such practices. Section 1302 also purports to require the United States Trade Representative to enter into negotiations with these countries in order to obtain agreements to remove the barriers. In essence, this provision requires the government to indict a country's entire set of trade practices, not one specific aspect of its policies.

The telecommunications section of the 1988 act requires the government to investigate foreign country practices in telecommunications and decide which are most offensive, as well as which would reap the most commercial benefit for the United States upon modification. If agreements to modify them cannot be reached, the law authorizes the President to retaliate. It also directs the President, if he does take retaliatory action, to target telecommunications trade. It will be a challenge to implement these procedures in a way that opens foreign markets, instead of causing the United States to close domestic ones.

AGENDA FOR THE FUTURE

The future of the international trading system, and the way in which modifications to it are negotiated, are arguably at a crossroad. The GATT system has functioned remarkably well during the past 40 years by all but eliminating tariffs on manufactured products as a major trade impediment, but it has been far less successful in limiting other obstacles to trade. The increased reliance on nontariff measures makes further progress more difficult, notwithstanding the limited success achieved in the Tokyo Round. Expanding GATT's coverage to include important omissions, including agriculture, services, and intellectual property rights, is complex because it may require basic modifications in domestic law or policy, not just in international conventions.

The multilateral negotiating process is complicated by the increase in the number of important participants, and the consequent tenden-

cy toward bilateral or plurilateral liberalization outside GATT. While the United States, Canada, the European Community, and Japan remain the most important trading nations, the share of world trade in manufactures controlled by the middle-income developing countries has tripled, from 5.0 percent in 1965 to 15.3 percent in 1983. Individual concessions by these nations on issues such as intellectual property rights, trade-related investment measures, or trade in services are less important to the larger nations than are collective concessions. In multilateral negotiations, a free-rider problem arises because smaller nations, hoping to gain from the final package, which will be applied on a most-favored-nation basis, have less incentive to make individual concessions. This problem explains the tendency for supplemental codes to GATT to be applied only to signatories, and not to all GATT members.

The tendency toward bilateralism is evident in a variety of ways, none of which is necessarily a negative factor by itself. Bilateral agreements negotiated by the United States under Section 301, while applied on a most-favored-nation basis, nevertheless clearly have the intent of removing those trade barriers most significant to this country. The Israel-United States Free-Trade Agreement, which came into effect in 1985, has already significantly liberalized trade between the two countries. As of January 1, 1989, Israel will have eliminated duties on 80 percent of its imports from the United States. In 1987 the United States and Mexico concluded a bilateral understanding that provides a framework of principles and a consultative mechanism to improve economic relations. This understanding, in conjunction with trade liberalization programs Mexico has undertaken as part of its accession to GATT in 1986, should enhance trade flows between the two countries. The Canada-United States Free-Trade Agreement, which enters into effect this year, creates the world's largest free-trade area. The simultaneous reduction of U.S. and Canadian tariffs and some nontariff measures will expand trade between the two nations, and both will undoubtedly gain. Because the benefits of the agreement are not conferred on a most-favored-nation basis, however, other countries may not necessarily share in this gain, as some trade is diverted away from them. These bilateral agreements will be especially beneficial if they foster further multilateral liberalization.

Whether bilateral or multilateral liberalization will prevail depends significantly on two major events: the outcome of the EC integration, scheduled to be completed by 1992, and the outcome of the Uruguay Round GATT negotiations, scheduled to end in 1990.

"EC 1992"—THE SINGLE INTERNAL MARKET IN EUROPE

In 1985 the member states of the European Community undertook to eliminate all remaining economic barriers between them by 1992. Since the late 1960s the EC has been operating as a customs union with a common external tariff and no internal tariffs. Yet various nontariff barriers remain, including, for example, technical requirements that differ among member states (for instance safety standards on machinery and health standards on agricultural products) and public procurement practices that discriminate in favor of domestic suppliers. Despite the absence of tariffs, cumbersome customs procedures are required because member states have different value-added and excise tax systems. The internal market reforms are intended to eliminate or substantially reduce barriers by harmonizing tax rates, eliminating restrictive technical standards, liberalizing financial sector regulations, and enforcing intra-European competitive bidding in public procurement.

To many in Europe this liberalizing process represents the logical next step in consolidating the economic advantages of the customs union framework. Substantial gains are expected from the realization of scale economies, once technical standards are uniform across this large market, which now spans 12 countries. Financial service integration is expected to lower the cost of capital to investors, and efficiency gains are expected from more fully competitive bidding on the sizable government procurement market, from tax harmonization, and from the elimination of administrative and time costs of customs arrangements. A study done for the Commission of the EC, which has been planning the directives for the changes, puts the expected contribution to baseline GDP in Europe at 4.5 percent over the medium term, and to employment of almost 2 million new jobs. For an economic bloc that has been slow to recover from the stagflation of the 1970s and the recession in the early 1980s, a potential economic boost of this sort could provide sufficient incentive for governments to overcome domestic resistance to these reforms.

For the U.S. economy the EC 1992 reforms offer potential benefits, in addition to possible barriers alluded to in American businesses' fear of a Fortress Europe. The effects will be felt in two distinct ways: through American trade with Europe, and through American investment on the continent. As a trading partner, the United States and other countries outside the EC may lose to the extent that the easier movement of goods within Europe encourages more internal trade, and puts outsiders at a relative disadvantage. If the reforms do result in substantial European growth, however, this growth may increase the amount of the Community's external trade, including U.S.

exports to Europe. These gains will only be realized, however, if the EC remains open to the rest of the world.

The issues differ somewhat for the United States as an investor. As long as American firms located in Europe are granted "national treatment," that is, the same rights of market access as European firms, their gains from the increased efficiency of an expanded single market are the same as for their European counterparts. This issue is of considerable concern to the United States because the Europeans are considering a reciprocity standard for granting third-country financial institutions access to the newly integrated financial market. Under strict reciprocity the EC could deny entry to American firms as U.S. laws in the financial sector are not equivalent to those of the EC. Consequently, U.S. firms not already established in Europe would not benefit from the reforms.

URUGUAY ROUND NEGOTIATIONS

At the United States' urging, the eighth round of GATT negotiations was launched in Punta del Este, Uruguay, in September 1986. The work was divided into two main parts, a Group of Negotiations on Goods and a Group of Negotiations on Services. Actual negotiations began in February 1987.

While all negotiating areas are important to the United States, the main U.S. objectives are to correct the weaknesses in GATT coverage and discipline. The responsibility of the Group of Negotiations on Services is to establish principles for extending GATT coverage to trade in this expanding component of world output. The group must also negotiate sector coverage and establish basic rules on issues such as transparency, nondiscrimination, national treatment, and rights of establishment. Because trade in services often requires at least some local production, the right of foreign firms to establish local operations is crucial. Possible sectoral coverage includes areas such as insurance, construction, advertising, telecommunication services, leasing and franchising, and computer and data processing. Liberalized trade in these areas can offer significant gains to American firms.

The Group of Negotiations on Goods is split into many smaller groups covering agriculture, trade-related intellectual property rights, trade-related investment measures, tariffs, and nontariff measures, among others. The United States made its most dramatic proposal in agriculture, where the long-term U.S. objective is to eliminate all policies that distort world agricultural production, trade, and prices. This sweeping proposal includes both domestic and border measures. To increase transparency and facilitate systematic liberalization, the United States has proposed tariffication of many of the nontariff

measures that are so important in agricultural programs. Successful implementation of U.S. proposals would lead to large gains in economic efficiency, and reduce the high financial cost of farm programs at home and abroad. While all nations have agreed to the principle of increasing GATT discipline over agricultural policy, including internal and border measures, major players such as Japan and the EC will need to be convinced of the desirability of the full-scale liberalization that the United States and smaller exporting nations are promoting. At the same time, comparable liberalization of trade in tropical agricultural products is of prime importance to developing economies.

Another prime U.S. concern is reflected in the group on intellectual property, where, in conjunction with other developed countries, the United States is attempting to develop a framework to enhance intellectual property rights protection. Suggested areas for coverage include patents, copyrights, trademarks, trade secrets, and semiconductor layouts. The absence of appropriate protection in these areas is estimated to cost the United States more than $20 billion per year in lost sales. Insufficient protection of intellectual property leads to underinvestment in research and development activities. Although less developed countries wish to concentrate the negotiations only on border measures, proper protection must also include internal measures and enforcement to prevent the misappropriation of intellectual property for domestic production.

In light of the substantial past achievements in tariff reductions, this issue is not as important as in previous rounds. Other groups, including those on safeguards, nontariff measures, textiles, subsidies, and GATT Articles, are striving to develop formulations for limiting the greater problem of nontariff measures. As in agriculture, tariffication of "hard-core" nontariff measures could be a first step toward their elimination. Many less developed countries wish to liberalize textile trade, and to reduce the ability of industrial economies to use safeguard, antidumping, and countervailing duty actions to protect domestic industries. On the other hand, the United States seeks greater discipline on the use of trade-distorting subsidies. Developing countries also wish to require that safeguard actions be imposed on a most-favored-nation basis. At the same time, they seek special and differential treatment concerning reciprocal tariff reductions, and their "right" to protect domestic industries. The developed economies thus far have not offered significant proposals to reduce the use of grey-area measures of protection.

Direct international investment, like international trade, is an important component in expanding world output and efficiency. Policies that inhibit or distort those flows reduce world efficiency. Many

developing countries tie performance requirements to direct foreign investment. These requirements, which include technology transfer, local equity participation, minimum export levels, and balanced trade, both discourage investment and distort trade flows. Developing countries have resisted progress in this group on sovereignty grounds.

Broadening GATT coverage will be meaningless unless ways are found to enhance compliance with GATT principles. An improved dispute settlement process is an indispensable requirement to enhance reliance on GATT principles and procedures. Main proposals include the automatic right to a panel to settle disputes, the possibility of binding arbitration if both parties consent, an expedited panel process, and perhaps the adoption of a procedure whereby parties to the dispute abstain from voting. The possibility of having a strong dispute settlement process is doubtful as long as countries maintain their rights to act unilaterally, and ignore GATT reports.

A ministerial level Mid-term Review of progress in the Uruguay Round took place in Montreal in early December 1988. In 11 of the 15 groups this review resulted in agreement on proposals to be implemented or on frameworks for further negotiations for the remainder of the talks. From the U.S. perspective some of the most important progress occurred in the groups on services, dispute settlement, subsidies, tariffs, and functioning of the GATT system (FOGS). In four groups—agriculture, intellectual property, safeguards, and textiles—disagreements remained, although some progress was made in Montreal in narrowing these differences. Negotiations in these four groups will continue, and a senior officials level meeting of the Trade Negotiations Committee is scheduled to meet in Geneva in April 1989. Once agreement is reached in these four areas, the results achieved in Montreal can be implemented. The changes in FOGS and dispute settlement will be implemented on a provisional basis. Most GATT members anticipate that the talks will be successfully completed, on schedule, by the end of 1990.

The record of the past 40 years clearly demonstrates that economies that have utilized free market principles have been at the forefront of economic growth. The significant reduction in trade barriers and the ensuing increase in international trade flows have been major factors in the record growth during this period. Current U.S. proposals to phase out distortive agricultural policies, to expand trade liberalization to sectors not previously covered, and to strengthen GATT manifest the United States' desire to help construct a world trading system that is open to, and benefits, all nations. The guiding principle that government interference with international commerce should be kept to a minimum is equally applica-

ble to internal commerce. Freeing the economy from excessive regulation allows entrepreneurs to focus on innovation, the hallmark of the American economy. Continued efforts to liberalize trade, and to reduce internal regulation, will ensure America's role as a model for the rest of the world.

CHAPTER 5

Rethinking Regulation

GOVERNMENT REGULATION can have a dramatic effect on economic growth and productivity. Strong economic growth can be expected when governments promote markets by enforcing property rights and encouraging commerce. On the other hand, poor economic performance usually results when governments play an active role in regulating prices and output. The U.S. Government has tended to leave most pricing and output decisions in the hands of the private sector. As the United States becomes a wealthier country, however, demands increase for regulating marketplace activities that affect environmental quality, health, and safety. It is critical that the Nation meet these challenges by designing regulatory institutions that facilitate innovation and foster competition.

Regulation of economic activity is hardly a new phenomenon. Over the past century, Federal, State, and local governments have played an increasingly important role in regulating the lives of individuals and the activities of business. The average consumer need not venture beyond the home to see the extent of regulation. There are labeling requirements for food and appliances, standards for the paint in the living room, pollution control requirements and energy standards for the car, standards for gas and portable electric heating systems, and safety requirements for bicycles. Today regulation is so pervasive that it is difficult to imagine a world in which Federal regulation was not a dominant force. Currently more than 100 Federal agencies are responsible for administering a staggering array of regulations.

Much regulation is motivated by a perception that the marketplace does not adequately address a particular economic or social problem. For example, child labor laws help prevent the exploitation of children. Environmental legislation tries to improve the quality of the air people breathe and the water they drink. Safety legislation to protect coal miners was enacted to help reduce on-the-job injuries. In other cases, legislation was introduced to limit what was viewed as potentially "destructive competition," or to help save a cherished institution, such as the family farm. While many of these regulations had beneficial effects, they were not without their costs.

The success of regulatory programs can be measured by quantifying the costs and benefits of regulation. Regulatory costs imposed on the economy have been estimated to be in the neighborhood of $100 billion annually. The benefits of regulation are more difficult to measure, but nonetheless are real, particularly for programs designed to promote environmental quality, health, and safety. Critics say that the costs are too high, arguing that regulation tends to favor special interests and is generally inefficient. Proponents of an increased government role in the marketplace point to the myriad of social, environmental, and economic problems that have not been adequately addressed.

To move beyond such general debates, it is necessary to examine the economic and social impacts of specific regulations and policies. Such analysis reveals that some regulatory activities have led to unambiguous increases in consumer welfare, but that many regulations have had a neutral or adverse effect on consumers. Examples of regulations that have had significant adverse economic impacts on the general public include wage and price controls, regulations on interstate trucking and railroads, and regulations on ocean shipping. Although there are notable exceptions, such as the abolition of the Civil Aeronautics Board (CAB) and the breakup of the American Telephone & Telegraph Company (AT&T), changes in the regulatory environment have often favored special interests at the expense of the general public.

There are signs, however, that some important aspects of the regulatory process are undergoing a fundamental reexamination. Over the past two decades, numerous reforms have been aimed at deregulating or partially deregulating several industries. The transportation industries, most notably trucking, railroad, and air transport, have experienced tremendous gains as a result of deregulation. One study estimates that the benefits of trucking deregulation are between $39 billion and $63 billion annually, while another estimates the benefits of airline deregulation at $15 billion per year. A third study found that the partial deregulation of railroads has led to efficiency gains of between $9 billion and $15 billion annually. These gains, which have largely occurred in the 1980s and have helped produce the improved economic performance of the past 6 years, have translated into lower prices and a wider range of services for consumers. Where increased competition has been promoted in other sectors, a similar story emerges. The widespread introduction of money-market accounts that followed reduced financial industry regulation has allowed consumers to obtain a higher return on their savings. The introduction of increased pricing flexibility for stock commissions has helped to promote a booming discount brokerage industry. The relaxation of

the restrictions on overnight mail delivery has led to dramatic increases in the provision of next-day-delivery services by private companies.

The movement toward deregulation represents one kind of regulatory innovation. More recently, other efficiency-enhancing innovations in the regulatory process, although not completely removing regulation, have been aimed at fostering greater innovation in the marketplace. For example, the U.S. Environmental Protection Agency (EPA) has pioneered the development of market-based approaches designed to achieve a given level of environmental quality at lower cost. These approaches have resulted in cost savings in the billions of dollars over the past decade.

Another area undergoing a great deal of change is the regulation of public utilities, such as phone companies, gas companies, and electric utilities. In many cases the fundamental rationale for public utility regulation has been called into question. The general thrust of these changes is to develop institutions that encourage firms to operate more efficiently. Thus, where new electric generating capacity is needed, for example, some state public utility commissions now encourage competitive bidding for constructing new generating capacity. Formerly, a single company that served the area was given a monopoly over the right to build new capacity. In some cases States are also allowing utilities to provide economic incentives for energy conservation as an alternative to building additional capacity.

The reasons for the evolution of the regulatory process are complex and only partially understood. In contrast, the relationship between the adoption of a particular regulatory approach and the resulting economic performance is fairly well understood. On the whole, greater reliance on market forces has led to a more efficient industry structure and large gains for consumers. The result of deregulatory efforts and efficiency-enhancing regulatory innovations has been to increase the overall size of the economic pie, and to make the average citizen better off. A critical element in promoting U.S. competitiveness in the years to come will be the implementation of regulatory strategies that encourage competition and innovation.

This chapter provides a selective review of regulatory activity, highlighting those aspects of Federal regulatory policy where exciting reforms are taking place. It also points out some areas, such as the banking industry, where additional reform is needed. The analysis demonstrates how the regulatory environment in which firms operate can have a dramatic effect on the performance of particular industries as well as the overall economy. In addition, it suggests how some fresh approaches to regulatory design can foster economic growth and promote technological change in the decades ahead.

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REGULATION: AN OVERVIEW

Economists have identified two broad classes of regulation. The first, sometimes referred to as "economic regulation," usually covers the regulation of specific industries. This regulation takes three basic forms. The first places restrictions on the prices a firm can charge or which firms can enter a particular industry. For example, prior to 1978 airlines needed approval from the Civil Aeronautics Board for specific routes and fares. Truckers and railroads still have to file rates with the Interstate Commerce Commission. These transport industries represent a more general category of industries that could operate more efficiently in the absence of price and entry restrictions. Fortunately, much of this regulation has been removed in recent years, resulting in lower prices and an expanded menu of services for consumers.

A second form of economic regulation concerns industries for which it is less costly to have a single large firm provide a product than to have several smaller firms provide the product—i.e., so-called "natural monopolies." Industries thought to have elements of natural monopoly include local telephone networks and transmission and distribution systems for electricity and natural gas. For example, it is sometimes cheaper to build one large natural gas pipeline than several small ones. Some industries with natural monopoly elements, such as electric utilities, are regulated by Federal and State agencies. The typical approach of these regulators is to provide limitations on the overall return on investment that firms are permitted to receive.

A third form of economic regulation, which has often been overlooked in the scholarship on regulation, involves the direct government provision of services. For example, the government provides mail services through the U.S. Postal Service and prohibits others from competing for those services. This type of regulation can be viewed as an extreme form of price and entry regulation where the government is the sole supplier of certain services.

The second broad class of regulation, referred to as "social regulation," is aimed at tackling problems that are not always adequately addressed by the marketplace. Examples include health, safety, and environmental regulation. This regulation is not directly related to issues of prices and market structure, but rather attempts to address problems where there is a perceived "market-failure." For example, a firm may generate too much pollution because it does not include in its costs the effect of its pollution on others. Unlike much economic regulation, social regulation is rarely targeted at specific industries.

Although the preceding taxonomy of regulatory activity covers a lot of ground, it is far from complete. For example, not all economic

regulation is targeted at specific industries; minimum-wage laws clearly represent a form of economic regulation that applies to almost all industries in one form or another. Similarly, antitrust policy, whose purpose is to promote competition by placing limitations on different kinds of business conduct and policies, is also an important form of economic regulation. Despite such drawbacks, the preceding classification scheme provides a convenient lens through which to analyze the activities of a wide variety of Federal regulatory agencies.

RATIONALES AND MOTIVATIONS FOR REGULATION

Many justifications have been offered in defense of regulation. Economists quite naturally tend to focus on those justifications motivated by potential gains in economic efficiency. The primary efficiency rationale for economic regulation is that of natural monopoly. However, it is important to recognize that just because, in theory, an industry consisting of a single regulated firm might be able to sell its output at a lower cost does not mean that, in practice, it will. Just as the marketplace may be imperfect in the case of natural monopoly, so too are the tools at the disposal of government regulators.

The economic rationale for social regulation is that firms or individuals may impose costs or benefits on other individuals that are not adequately accounted for in the marketplace. Such costs or benefits are sometimes referred to as "externalities." Examples of externalities include smoke from a factory that contributes to respiratory illness of nearby residents, and the costs an individual might impose on others by driving while intoxicated. Externalities are often viewed as examples of market failure. Until recently many economists viewed market failure as a sufficient rationale for government intervention. Because it is now widely recognized that government intervention is not without its pitfalls, however, market failure is seen as a necessary, but not sufficient, condition for government intervention.

Economists sometimes refer to situations where government intervention results in a less efficient policy as "government failure." Such failures can arise in cases of both social and economic regulation. This is because what economists see as reasonable grounds for government intervention and regulation, and what actually happens when regulations are implemented, are often different. For example, many firms attempt to use the regulatory process to enhance their competitive position. Barriers to entering an industry may increase with the introduction of new regulations, not only increasing profits for regulated firms, but also yielding a less efficient industry structure. The existence of incentives for firms and individuals to manipulate the political process means that regulatory programs may not be

implemented so as to promote economic efficiency; nor is such efficiency necessarily an important criterion for politicians designing such programs.

Over the past 20 years some economists and political scientists (especially those of the "public choice" school) have attempted to understand what motivates different approaches to regulation. A key insight from this research is that much regulation can be explained by an interest in redistributing wealth from the general public or taxpayers to special interest groups. The motivations for some social regulation are more difficult to disentangle, but here, too, there is a strong political element related to the redistribution of wealth. For example, the legislation requiring scrubbers on power plants appears to have been motivated as much by the self-interests of environmentalists and high-sulfur coal miners as by a desire to promote cleaner air.

Notwithstanding the growth in understanding of both the politics and economics of regulation, some important parts of the puzzle still defy a simple explanation. Most notable among these is the wave of deregulatory activities that has taken place over the past two decades. The fact that many of these activities were characterized by diffuse benefits for a large group of consumers and concentrated costs for some well-organized interest groups makes it difficult to explain why they were adopted.

Several factors appear to have contributed to this dramatic change in the approach to regulation. First, an outpouring of research on economic regulation suggested that the costs of regulation were quite high. Second, some "natural" experiments provided further evidence that deregulation would result in large benefits. For example, in the case of airlines almost all intrastate markets were unregulated whereas interstate markets were heavily regulated. A comparison of the fares between Los Angeles and San Francisco with those between New York and Washington, D.C. suggested that people in the latter market were paying much higher fares as a result of regulation. Third, technological changes in industries such as telecommunications and electric utilities led some firms to lobby for a reduction in the entry barriers that protected existing firms. Finally, as the social costs of regulation grew, some politicians may have seen an opportunity to claim national credit by promoting policies that would result in significant gains for a large group of consumers. Although these factors help to motivate the movement toward deregulation, they do not explain why a wave of such activity began in the 1970s; nor do they explain what is likely to be in store for the future.

TRENDS IN REGULATION

The scope of regulation has broadened considerably since the first Federal administrative agency, the Interstate Commerce Commission (ICC), was established in 1887. The Sherman Antitrust Act became law in 1890. This was followed by the Federal Trade Commission Act and the Clayton Act in 1914, which were designed to protect consumers and to regulate competition. The New Deal period witnessed the creation of several financial regulatory agencies, including the Federal Deposit Insurance Corporation, the Securities and Exchange Commission, the Federal Home Loan Bank Board, and the Farm Credit Administration as well as other regulatory agencies, such as the Civil Aeronautics Authority (later the CAB) and the Federal Communications Commission. Prior to 1960 Federal regulation was primarily aimed at affecting the market structure of specific industries. For example, the Interstate Commerce Commission regulates the rates of truckers and railroads involved in interstate commerce. The now defunct Civil Aeronautics Board regulated prices and entry into various domestic airline markets (discussed in Chapter 6 of the 1988 *Report*). In short, the focus was on economic regulation.

Although economic regulation was predominant prior to 1960, some Federal agencies were charged with addressing health and safety issues during this period. For example, the Food and Drug Act of 1906 required inspection and labeling of certain foods and drugs. The Federal Aviation Administration was created in 1958 to help ensure safe air travel. These agencies have played an important role in shaping the structure of the industries they regulate.

Since the mid-1960s the focus of new regulatory activity has changed. While traditional regulation of prices and entry still exists in some industries, there has been a virtual explosion of social regulation concerned with safety, health, and environmental quality. The Consumer Product Safety Commission sets safety standards for consumer products from carpets to cribs. The Environmental Protection Agency develops environmental standards and approves State pollution control plans. The Occupational Safety and Health Administration regulates hazards in the workplace. The growth in this type of social regulation has led to an increased Federal presence not only in business activity, but also in the day-to-day activities of the general public. Indeed, some studies argue that social regulations have led to a measurable decline in productivity (discussed in Chapter 1).

THE EFFECTS OF REGULATION

The dramatic increase in regulation has been accompanied by an increase in understanding of the beneficial as well as harmful effects of this type of government intervention. Regulatory policy has an im-

portant effect not only on specific sectors of the economy, such as transportation and finance, but also on the Nation's ability to compete in the global marketplace. For example, if the United States chooses to adopt environmental and safety regulations that are more stringent than those of the rest of the world, it may encourage some types of industries to move facilities abroad. In other cases social regulation can serve as a form of protectionism. For example, if a foreign manufacturer must meet a complex set of U.S standards, it may choose not to compete in this market. In this way some pollution and safety regulations can work to benefit domestic manufacturers, although consumers ultimately must pay higher prices. At the same time such regulations can yield benefits for consumers in the form of a cleaner environment and increased safety.

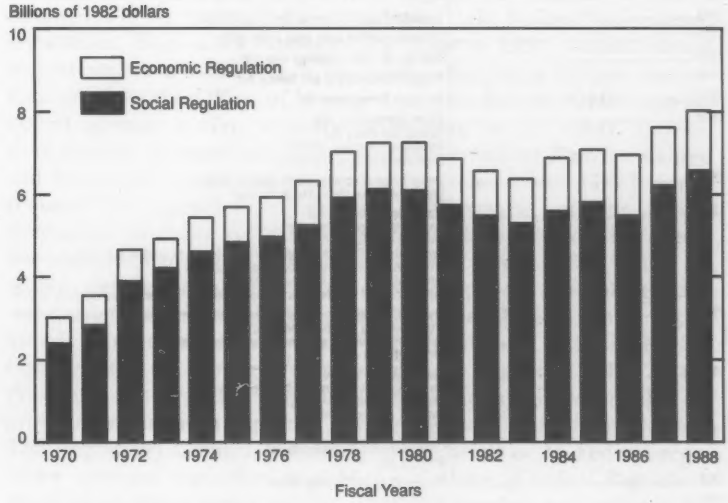
There have been several estimates of the scope of regulatory activity. One measure frequently cited is the increase in the number of pages in the *Federal Register*. Unfortunately, this measure is not very informative because it fails to account for differences in the impact of regulations as well as changes in the composition of the *Federal Register* over time. A somewhat more informative measure is given by the amount of direct Federal outlays for regulatory activity. Chart 5–1 shows how these costs have varied in real terms over the past 19 years. The chart reveals that the administrative costs of social regulation grew rapidly in the 1970s, fell slightly in the early 1980s, and then began to rise again. Activities associated with economic regulation, which represents only a small fraction of these administrative costs, have grown slowly over this period. A similar picture emerges from an analysis of administrative staffing requirements and costs as a fraction of gross national product.

Of much greater economic interest are the costs that regulation imposes on industry that are ultimately borne by the public. These costs are decidedly more difficult to estimate. For example, consider the problem of measuring the environmental impacts of Federal and State efforts aimed at reducing air pollution. Information on pollution levels at the time the regulations were implemented is often inadequate. Moreover, even where accurate records are available, it is difficult to isolate the effects of regulation from other economic activity. While it is likely that the level of sulfur dioxide has decreased since 1970, for example, the result may be attributable as much to economic factors such as increasing energy costs and advancing technology as to regulatory changes.

Despite the methodological difficulties, studies have estimated how regulation of specific industries affects consumer costs. One recent estimate of environmental regulations alone put the annual price tag at more than $75 billion, but made no attempt to measure benefits.

Chart 5-1

Real Federal Outlays for Regulatory Activities



Note.—Data for 1988 are estimates.
Sources: Center for the Study of American Business and Council of Economic Advisers.

Combining the results of other studies shows that Federal health and safety regulations cost consumers at least $22 billion annually, again ignoring benefits. For the case of economic regulation, for which there are seldom any net benefits, the annual costs are estimated to exceed $18 billion.

THE MOVEMENT TOWARD DEREGULATION

One of the most surprising and noteworthy changes in the regulation of markets has been the movement toward deregulation over the past two decades. Table 5–1 chronicles the deregulatory initiatives that have occurred from 1971 through the present. Most of these initiatives have occurred in the area of economic regulation, although a handful have occurred in social regulation.

The list illustrates the broad range of activities in which markets and competition have played an increasingly important role. Deregulatory efforts from airlines to cable TV have allowed firms to compete with less government intervention. Although estimates of total efficiency gains are not available, deregulatory efforts have provided substantial benefits for both industry and consumers.

TABLE 5–1.—*Deregulatory Initiatives, 1971–88*

Year	Initiative
1971	Specialized common carrier decisions (FCC)
1972	Domestic satellite open skies policy (FCC)
1975	Abolition of fixed brokerage fees (SEC)
1976	Railroad Revitalization and Reform Act
1977	Air Cargo Deregulation Act
1978	Airline Deregulation Act Natural Gas Policy Act Standards revocation (OSHA) Emissions trading policy (EPA)
1979	Deregulation of satellite earth stations (FCC) Urgent-mail exemption (Postal Service)
1980	Motor Carrier Reform Act Household Goods Transportation Act Staggers Rail Act Depository Institutions Deregulation and Monetary Control Act International Air Transportation Competition Act Deregulation of cable television (FCC) Deregulation of customer premises equipment and enhanced services (FCC)
1981	Decontrol of crude oil and refined petroleum products (Executive order) Truth-in-lending simplification (FRB) Automobile industry regulation relief package (NHTSA) Deregulation of radio (FCC)
1982	Bus Regulatory Reform Act Garn-St Germain Depository Institutions Act AT&T settlement Antitrust merger guidelines
1984	Space commercialization Cable Television Deregulation Act Shipping Act
1986	Trading of airport landing rights
1987	Sale of Conrail Elimination of fairness doctrine (FCC)
1988	Proposed rules on natural gas and electricity (FERC) Proposed rule on price caps (FCC)

Source: Adapted from R. Noll and B. Owen, *The Political Economy of Deregulation: Interest Groups in the Regulatory Process* and updated by the Council of Economic Advisers.

THE INTRODUCTION OF EXECUTIVE REGULATORY OVERSIGHT

When regulation represented only a small part of the "activity" of the Federal Government, there was no pressing need to coordinate or evaluate its overall effects. Now that regulation is an important component of economic policy, the need for coordination has become obvious. At the most basic level, there is a need to ensure that regulations do not promote policies that conflict with each other. Many economists would argue that it is also important to evaluate regulations in terms of their expected costs and benefits. From an economic standpoint, a basic problem is that regulatory agencies lack adequate incentives to take into account the cost of regulations on affected parties. Consequently, many regulations are designed to yield short-term political benefits while imposing larger costs on the public at large over a longer period.

To address the dramatic increase in regulatory activity beginning in the late 1960s the past four Presidents have introduced different oversight mechanisms with varying degrees of success. President Nixon, in 1971, established a "Quality of Life Review" of selected regulations. Born out of concern that some of EPA's environmental regulations were ineffective or too costly, this review process was administered by the Office of Management and Budget (OMB) and required agencies issuing regulations affecting health, safety, and the environment to coordinate their activities. President Ford formalized and broadened the review process in Executive Order 11821, which required that agencies prepare, and OMB review, inflation impact statements for major rules. In 1978 President Carter modified executive regulatory oversight by issuing Executive Order 12044, which required detailed regulatory analyses of proposed rulemakings and review by the Executive Office of the President. In addition he established two interagency groups. The Regulatory Analysis Review Group, made up of representatives from the Executive Office of the President and regulatory agencies, examined a limited number of proposed regulations expected to have substantial regulatory impact. The Regulatory Council, consisting of the heads of 36 Federal regulatory agencies, was asked to publish a *Calendar of Federal Regulations*, which summarized major regulations under development and was designed to point out regulatory overlap and to describe the costs and benefits of the proposed actions.

This Administration further sought to strengthen executive regulatory oversight. Just 2 days after entering office the President announced the formation of his interagency Task Force on Regulatory Relief to be chaired by the Vice President. The task force became the clearinghouse for the President's effort to improve the Nation's competitiveness and was used, in the President's words, to "cut away the thicket of irrational and senseless regulations." Hailed as "one of the keystones in our program to return the nation to prosperity," the task force later counted among its achievements expediting the drug approval process, reducing airborne lead emissions by phasing out lead in gasoline and encouraging the search for safe alternatives, and promoting more efficient uses of energy resources.

Three weeks after forming the task force the President issued Executive Order 12291, which authorized the new Office of Information and Regulatory Affairs (OIRA) within OMB and the task force to work together to develop more effective and less costly regulations. The Office of Information and Regulatory Affairs has primary responsibility for implementing Executive Orders 12291 and 12498. The first of these Executive orders requires cost-benefit analyses for all major rules. Although OMB could not veto agency rules, it could

improve the quality of a rule by sending the analysis back to the agency for reconsideration. The second Executive order requires annual publication of the *Regulatory Program of the United States*, which reviews regulations proposed by agencies for conformance with Administration policy and priorities. The approach of this Administration is unique in both the scope of the regulatory review as well as the formal inclusion of benefits estimation in the regulatory impact analyses for major rules.

The potential for executive regulatory oversight to impose discipline on the regulatory process is limited. One reason is that regulatory reform is unlikely to be a high priority for any Administration in the near future because it is hard to convince the public of the need to streamline the regulatory process when specific regulations are at issue. The problem is analogous to that of placing a limit on the budget or on spending. People recognize that in the aggregate many regulations may be burdensome, but almost always a vocal interest group will attempt to block the removal of any single regulation. A second reason is that program advocates in the Congress oppose the consequences of such oversight. Indeed, for some laws, such as the Clean Air Act, the statute clearly states that standards should be set without regard to costs.

Although the prospects for widespread reform of regulatory procedures are dim, executive regulatory oversight can play a constructive role in coordinating policies and reducing the burden of some of the more onerous regulations. Hopefully, this process will continue. The ability to review rules and to suggest agency reconsideration helps the Executive Office of the President to ensure that agency regulations are better justified and more consistent with Administration policy.

ECONOMIC REGULATION: EXTENDING THE BOUNDARIES OF COMPETITION

Over the past three decades a consensus has emerged among economists about the usefulness of some types of regulation. It is generally agreed, for example, that regulation aimed at controlling prices or entry will lead to inefficiencies in industries where competition can be sustained. Competition is generally viewed as a positive dynamic force that will encourage innovation and promote economic growth.

PRICE AND ENTRY REGULATION

The potential for competition in many industries has been enhanced in recent years by dramatic advances in technology, particu-

larly in telecommunications, information processing, and financial services. As a result, price and entry regulation has come under increased scrutiny. In some cases, such as in transportation, substantial deregulation has occurred. In others, such as banking and securities, there have been modest moves toward relaxing price and entry barriers, with mixed results. In addition to the piecemeal attempts to relax economic restrictions in specific industries, a major change has occurred in the government's treatment of proposed mergers and acquisitions.

The Shift in Antitrust Policy

Antitrust policies limit the type of business agreements firms can use. For example, one aspect of antitrust policy places restrictions on price-fixing, because price-fixing is presumed to be anticompetitive. A second aspect of antitrust policy that has come under increasing scrutiny in recent years is the review of proposed mergers between different businesses. A marked shift in antitrust merger policy has occurred since 1980. While horizontal mergers involving similar companies are still monitored closely when entry barriers and concentration levels are high, the view of vertical mergers has evolved considerably. Vertical relationships, such as those in the petroleum industry where some firms refine petroleum and also distribute petroleum products, are viewed with less suspicion. The principal reason for this change in perspective is that the efficiency-enhancing aspects of vertical relationships are more widely appreciated. In addition to the change in thought on vertical restraints, there is also increasing recognition that many U.S. firms now compete in global markets, which means that the appropriate measure of market size must be enlarged.

Reflecting this change in perspective, the Department of Justice in 1982 adopted new guidelines for determining when it would challenge mergers or acquisitions as anticompetitive. The Federal Trade Commission at the same time adopted a comparable policy statement. These new guidelines provide a firm conceptual basis for evaluating horizontal and vertical mergers. They also provide more leeway for vertical mergers. In 1984 the Justice Department issued revised guidelines that placed even greater weight on competition in a global setting.

It is too early to assess the economic impacts of changes in the merger guidelines. However, one effect has been to increase competition in the market for corporate control. Increased competition should provide greater incentives for managers to run their corporations more efficiently (discussed in Chapter 6 of the 1985 *Report*).

Another important change in policy, which should complement the recent merger guidelines, is the National Cooperative Research Act of 1984. This act was designed to promote greater collaboration on

basic and applied research among private companies. The act should encourage domestic firms to engage in cooperative arrangements, such as research and development. Like the revised merger guidelines, the act is supposed to make it easier for U.S. firms to compete in a global setting (discussed in Chapter 6).

Banking: The Need for Reform

One of the major challenges for the next Administration will be to address the critical problems faced by the "banking" industry. A wide variety of institutions besides banks perform banking functions. Here, the terms "bank" and "banking institution" will be used to refer to those depository institutions covered by Federal deposit insurance. These institutions include savings banks and savings and loan associations (thrifts), credit unions, and commercial banks.

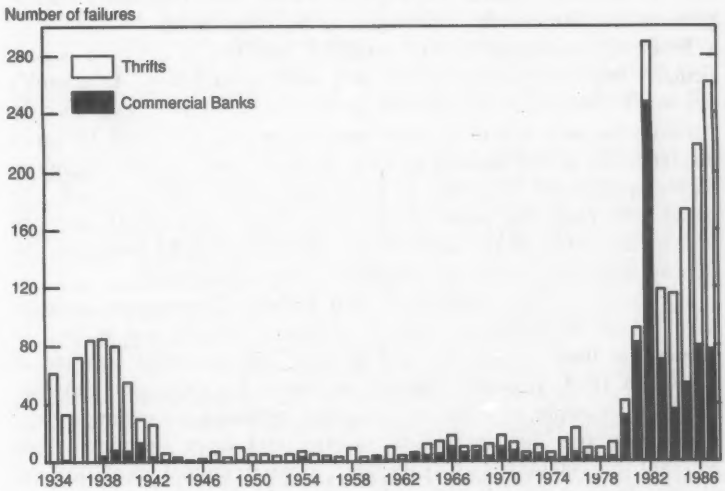
Much of the concern over the health of the banking industry results from the marked increase in bank failures over the past decade. As shown in Chart 5–2, failures remained high through the end of the depression, stayed at relatively low levels from 1945–79, and then rose dramatically. Net outlays for bank failures by the major Federal deposit insurance agencies reveal a similar pattern after World War II, but were inconsequential prior to that time.

The sharp rise in failures has placed a major burden on the deposit insurance systems. The Federal Savings and Loan Insurance Corporation (FSLIC), which provides deposit insurance for savings and loan associations, has been insolvent since 1986. The Federal Deposit Insurance Corporation (FDIC), which insures commercial banks and some savings banks, is still solvent, but will run a loss for 1988. Estimates of the costs to the FSLIC of closing insolvent thrifts have risen steadily. The Federal Home Loan Bank Board, which regulates these institutions, now estimates this cost to be in the range of $50 billion. Other estimates range as high as $100 billion, but costs will vary depending on how soon the problem is addressed. Unless something is done promptly, these costs are expected to climb rapidly.

The problems that many of these institutions have stem from the incentives provided by banking regulations. For example, thrifts were designed to hold portfolios that are unbalanced, with a large portion of assets consisting of long-term, fixed-rate mortgages while liabilities are held in the form of short-term deposits. When long-term rates exceeded short-term rates, the industry prospered. Problems arose in the 1970s, however, as a result of inflation and Regulation Q, which placed ceilings on interest rates for deposits. As the real rate of return on bank deposits declined, innovations, such as money-market funds, attracted funds into nonregulated substitutes for bank and thrift deposits. The sudden loss in capital bankrupted many banks and thrifts, and reduced the capital of others.

Chart 5-2

Bank and Thrift Failures



Sources: Thrift data from J. Barth et al., *Contemporary Policy Issues*, Fall 1985, and J. Barth and M. Bradley, paper presented at Federal Reserve Bank of Cleveland, November 3-4,1988. Bank data from Federal Deposit Insurance Corporation, *1987 Annual Report*.

With the sudden loss in capital, some of the defects in the current system of deposit insurance became apparent. This system, which currently guarantees about $3 trillion of deposits, has tended to exacerbate the problems faced by the banking industry. The basic problem with the current system of deposit insurance is that it fails to provide banks with appropriate incentives for risk management when banks have little or none of their own capital at risk.

Deposit insurance is intended to provide safe investment opportunities for individuals and businesses that desire low-risk investments. It is also designed to reduce the likelihood of runs on banks. Unfortunately, deposit insurance also dramatically reduces the incentives for depositors to monitor the financial health of their bank. Many depositors do not pay enough attention to the possibility of large losses because most, if not all, of their deposits are fully insured. Thus, one of the most effective mechanisms for curbing the excesses of banking institutions has been abandoned.

The primary task of monitoring banking institutions falls on shareholders and Federal regulatory agencies. Because the shareholders'

interests do not always coincide with those of depositors, the task of looking out for depositors' interests as well as the general health of banks is left largely to the regulators. The next Administration will need to develop constructive ways to reform these regulatory institutions so that the industry can regain its financial health.

From the standpoint of the regulator, effective monitoring is particularly important as the health of a bank deteriorates. As a bank's net worth declines, it has an even greater incentive to engage in risky behavior because less of its own capital is at risk. If a bank becomes insolvent but is still allowed to keep its doors open, it may engage in highly speculative behavior. If such investments turn out well, the banks will reap the gains; however, if such investments perform poorly, the brunt of the adverse consequences will be borne by the deposit insurance funds and, ultimately, the U.S. taxpayer.

The irony of this situation is that Federal Government policies have led to this debacle. Deposit insurance initially was limited in scope; the limit on private savings and loan accounts was set at $2,500 in 1934. However, deposit insurance has expanded dramatically. For example, in 1980 the Congress increased the ceiling on deposit insurance for individual savings and loan accounts from $40,000 to $100,000. Two years later, a congressional resolution explicitly affirmed the full faith and credit backing of deposit insurance funds by the U.S. Government. In addition the effective scope of deposit insurance has expanded. In the event of failures, not only have accounts under the ceiling been protected, but so have many accounts exceeding $100,000. In some cases other creditors and, in rare cases, stockholders were also fully or partially protected. In effect, there has been a secular move in Federal banking toward providing greater coverage for depositors and creditors, particularly in the case of large bank failures. While this move may have helped to decrease the likelihood of runs on particular banks, it has also contributed to the decline in the health of the U.S. banking industry.

Unfortunately, Federal agencies have taken other steps that have exacerbated rather than alleviated the problems with excessive risk-taking, partly as a result of congressional pressure. One measure taken in response to the erosion of bank capital has been to lower capital standards. This approach was tried in 1986 for institutions heavily involved in farm and energy investments. The reduction in capital requirements meant that banking institutions in poor financial health would have less of their own money at risk when making investments. Given the insurance system, institutions have an increased incentive to engage in riskier investments, largely at the taxpayer's expense if things do not work out as anticipated.

In addition to allowing troubled banks to have lower capital requirements, regulators have been reluctant to require banks to evaluate their loan portfolios at current market value. Some banking institutions, therefore, appear solvent when, in fact, they are not. While there may be a short-term payoff to regulators from avoiding taking action in such cases, there has been a long-term cost to the taxpaying public. These banks continue to remain in business, and often they invest in excessively risky assets, thus increasing the exposure of the deposit insurers.

As problems with insolvency have grown, the agencies have responded by attempting to reduce their out-of-pocket costs. In some cases insurers have allowed banks with financial problems to bid on other troubled banks. In other cases the insurers have entered into long-term agreements with purchasers of failed thrifts that protect the new owner from any losses on the acquired portfolio for up to 10 years. By weakening incentives for efficient management, such actions are likely to raise insurance costs in the long run.

Most regulatory actions taken so far merely serve to postpone the problem. Postponing the day of reckoning will sharply increase costs to the general public. The current regulatory strategy also makes life much more difficult for healthy institutions. By allowing banking institutions that are engaged in excessive risk-taking to remain in business, the healthy thrifts covered by the FSLIC are forced to pay higher insurance premiums to pay for the cost of those thrifts that are failing or have failed.

The lessons from past mistakes can be used to develop a more constructive approach to restoring the health of the banking and thrift industry. The key lies in providing institutions with the appropriate incentives for risk-taking. While existing proposals differ in their details, there is widespread agreement that the Congress and the next Administration should squarely address the problems created by the current deposit insurance system. Several economists have pointed to the need to liquidate or reorganize insolvent banks and thrifts as quickly as possible. Critics of such reorganization note the high price tag, estimated to be in excess of $50 billion for insolvent thrifts alone. Moreover, a large portion of the payment of this bill will need to come directly from the public. The remainder will be paid for indirectly by consumers through deposit insurance premiums levied on banks.

Removing insolvent banking institutions from the banking system is only a first step. The insurance system itself needs to be redesigned. In particular, the scope of Federal deposit insurance should be significantly curtailed. Reducing the ceiling on deposit insurance would help achieve this end. In addition, large depositors and credi-

tors should not be provided with *de facto* Federal deposit insurance. These changes would restore some much-needed discipline to the system.

In addition to reforming deposit insurance, regulators should establish procedures to step in and restructure institutions before they become insolvent. For example, a regulator can require accounting procedures that use market valuation of assets so that regulators have better information on the net worth of banks. The combination of better regulatory practices and lower ceilings for insured deposits should promote the health of the banking industry.

Two recent government studies provided careful examinations of banking regulation. The 1984 President's Task Group on Regulation of Financial Services chaired by the Vice President and the 1985 Cabinet Council on Economic Affairs both made suggestions for streamlining the oversight process and for providing more appropriate incentives for banking institutions. Some of the more salient recommendations included risk-related deposit insurance, higher capital requirements, stronger disclosure requirements, limitations on insurance to insured depositors, and increased monitoring and more vigilant enforcement by oversight agencies. These ideas are designed to increase monitoring on the part of interested parties and ensure that banking institutions have adequate amounts of their own capital at risk. Had these ideas been adopted in 1985, the problems facing the FSLIC and the FDIC would probably be much more manageable now.

The banking industry is evolving rapidly. The purpose of regulation should be to encourage the development of a healthy financial service sector that can compete internationally. Needed reforms include not only restructuring the deposit insurance system, but also redefining the appropriate sphere of competition for depository institutions. While the two exercises differ, they will both rely heavily on an understanding of how the incentive structure faced by today's banking institutions has led to the current crisis.

RETHINKING THE LIMITS OF NATURAL MONOPOLY

There has been a longstanding debate about how best to regulate natural monopolies. The traditional approach to such problems has been to regulate selected firms in order to prevent excessive profits. This regulation usually assesses the value of the firm's capital stock and then allows the firm to obtain a "reasonable" return on its investment. In practice, Federal and State regulatory commissions do not fix the rate of return *per se*, but rather agree on prices that the firm can charge. The prices result in a revenue stream for the firm

that is not supposed to, but sometimes does, exceed the allowable rate of return.

Rate-of-return regulation has several problems. First, it tends to be time-consuming and expensive. A rate proceeding before the Federal Communications Commission concerning appropriate charges for international satellite communications took 11 years. A second problem, related to the first, is that it is often difficult to determine which aspects of a firm's capital stock should be included in calculating the appropriate rates, and how this capital should be valued. A third problem is that firms subject to such regulation have relatively little incentive to produce output efficiently. In cases where the allowable rate of return exceeds the cost of capital, firms may try to increase their capital stock beyond what is efficient so that they can receive higher revenues. In cases where it falls short, firms may be unable to add needed capacity. The regulator is in the unenviable position of having to set a "reasonable" rate of return and determine whether price increases are justified on the basis of limited information about demand and costs.

Rate-of-return regulation needs to be compared with other approaches for dealing with industries with strong elements of natural monopoly. While competition could conceivably result in higher costs when there is a natural monopoly, it may also serve to spur innovation and drive down prices. For example, a study of electric utilities in markets with and without competition suggests that rates could be lowered by increasing competition. The point is that most forms of economic regulation are inherently flawed. Because policy should be based on actual rather than theoretical performance, competition, even in the presence of technologies with natural monopoly characteristics, may be preferred.

Given the costs associated with the rate-making process and the attendant inefficiencies, there have been several suggestions for reforming the process. For example, one approach is to allow firms to bid on the right to offer a particular service, and give the contract to the highest bidder. Such franchise bidding schemes can present difficulties. Once the bidder wins the contract, it may be difficult to ensure adequate performance. Moreover, the contractor may be able to create conditions that make it difficult for new entrants to enter the market when the contract has expired. Such problems tend to limit the applicability of this approach.

Two new ideas have recently surfaced that, for some cases, represent promising alternatives to traditional rate-of-return regulation of natural monopolies. The first would replace such regulation with a "price cap." The idea behind a price cap is to set an upper limit on the price a firm can charge over a given period, but then allow the

firm to choose any price that does not exceed the cap. The advantage of this approach is that the firm has an incentive to produce its output at least cost. Moreover, the firm also has a strong incentive to search for new technologies that would lower production costs because it would be allowed to retain its profits.

Price caps present some difficulties in practice. In many instances it may not be a straightforward matter to set the price cap at a level reflecting a competitive price. If the price cap needs to be revised periodically, the problem is further complicated. Indeed, constant revision of the price cap may result in a system of regulation as cumbersome as traditional rate-of-return regulation. The challenge lies in selecting applications where price caps will result in efficiency gains. While there are no hard and fast rules, it would appear that price caps are most likely to succeed when a firm or industry is changing from monopoly to a more competitive situation.

The regulation of prices for some long-distance calls provides one potentially promising application of price caps. The Federal Communications Commission is considering using this approach as a way of regulating the portion of local telephone companies' costs that are subject to Federal jurisdiction, and as a way of regulating part of AT&T's business for a short period of time before moving to complete deregulation. Whether price caps will be adopted in this case is uncertain. They are already being used in a variety of contexts including telecommunications in the United Kingdom. British Telecom, formerly a state-owned entity, is now subject to price caps that are adjusted periodically to account for inflation and productivity. A study of this application suggests that price caps have succeeded in promoting efficiency.

A second approach to the issue of natural monopoly is to devise institutional mechanisms that permit competition to thrive even where the production of a commodity has certain characteristics of natural monopoly. An idea that appears to hold great promise for introducing competition is that of shared capacity rights. These rights allow private parties to use property jointly in a way that benefits them all. One example is the sharing of common space and facilities in a shopping mall. A second example is the joint ownership of a fiber optics cable for trans-Atlantic calls.

This idea can be, and often is, applied to large investments in complex networks. For example, suppose it is cheaper to build one large pipeline than two small pipelines to transport natural gas. The pipeline need not be owned by a single firm. Indeed, several firms could each own a share of the pipeline. The ownership share would entitle the firm to use a certain fraction of the pipeline's capacity. By dividing ownership among several firms or individuals in this manner, it is

possible to imagine a competitive market emerging for pipeline capacity, whereas if a single business owned the only pipeline, competition would not exist. This approach can be a first step toward promoting competition as regulatory barriers to entry are reduced. The idea of sharing capacity rights may hold promise for introducing competition into such diverse areas as telecommunications, electricity transmission, and the transport of oil and natural gas by pipeline.

In addition to the new approaches that are evolving as substitutes for traditional rate-of-return regulation, recognition is growing that many industries formerly thought to have strong natural monopoly characteristics can be reorganized in ways that would foster greater competition and efficiency. The change in the view of which industries are natural monopolies derives in part from technological change, and in part from growth in the size of markets, which allows several firms to compete. The equipment needed to provide a network for making a long-distance call is different now from what it was 25 years ago. Competition in the long-distance market is now a viable alternative.

A second factor contributing to the change in thinking about industries with natural monopoly characteristics stems from a more careful examination of the cost structure in a given industry. For example, in the case of telecommunications, economists have argued that telephone companies had some characteristics resembling those of a natural monopoly, but that long-distance service could be more efficiently provided if firms were allowed to compete.

The impetus for change has come mainly from industries that stood to gain from changes in the regulatory environment. For example, new entrants in telecommunications saw an opportunity to gain by providing consumers with lower rates on long-distance calls than were being offered. Similarly, low-cost producers of electricity see an opportunity to increase their profits as markets are opened up. Indeed, in virtually all cases of regulatory reform, an outside stimulus was provided by an interest group that stood to gain from those changes in direct economic terms. Such interest group stimulus is not, however, sufficient to generate regulatory changes.

Two of the more exciting sets of reforms are being applied to the regulation of electric utilities and pipelines that transport energy. The changes in these industries underscore the potential for regulatory reform as well as some of the pitfalls.

Increasing Competition in the Electric Power Industry

Electric utilities are frequently cited as a classic case of natural monopoly. Indeed, all three components of the industry—generation, transmission, and distribution—were previously thought to be subject to economies of scale. Thinking on this issue has changed dramati-

cally in recent years. Econometric studies have provided ambiguous results concerning the scale economies that could result from larger power plants. While economies of scale probably exist over some range of output (as they do with many firms), the range may be small enough to allow several firms to compete in building and running power plants that serve the same market. In addition, although it is widely agreed that transmission and distribution systems are subject to economies of scale and barriers to entry, there are ways to allow competition to emerge even in these parts of the industry.

The interest in new institutional arrangements has been sparked, in part, by problems that arose in the electric utility industry in the early 1970s. Prior to that time, real electricity rates showed a marked downward trend. This situation changed dramatically with the large increase in oil prices. Traditional rate regulation was ill-equipped to adapt to these changing circumstances. Consumer groups placed continuing pressure on public utility commissions to hold down rates, while utilities argued that rate increases were necessary both to cover costs and make the necessary investments in new generating capacity.

Fortunately, both the electric utilities and the regulators have begun to develop some innovative solutions to these problems. Utilities, in cooperation with Federal and State regulators, have developed a variety of sophisticated contracting arrangements for the purchase and sale of power. Under long-term contracts, utilities can effectively purchase partial or full ownership of a generator. At the other end of the spectrum, spot markets for electricity allow utilities to exchange power on an hourly basis.

One of the more important pieces of recent legislation to promote the move toward a more competitive generating sector was the Public Utility Regulatory Policies Act of 1978 (PURPA). The primary purpose of this legislation was to encourage cogeneration and small power production, and it has done just that. Cogeneration involves the joint production of heat and electricity at the same facility. This process often facilitates the generation of electricity at a cost lower than is possible at a conventional power plant.

Cogeneration has increased dramatically since the implementation of PURPA. A report recently issued by the North American Electric Reliability Council projects that between now and 1997, some 20,000 megawatts, or 27 percent of all new capacity coming on line, will come from sources that are not owned exclusively by traditional electric utilities. While PURPA promoted the use of different generation technologies as well as small facilities, it also led to the purchase of some unneeded capacity. The principal problem was that States sometimes provided price signals to builders of capacity that did not

reflect the underlying economics of the particular power system receiving the electricity.

Although the implementation of PURPA has created inefficiencies, it has helped to create a group of entrepreneurs interested in having greater access to the market for producing electric power. The legislation also demonstrated that an electricity generation market with several participants was technically feasible. That is, it was possible to allow new entrants into the generating sector without compromising the reliability and stability of the entire power system. Having shown the technical feasibility, the principal challenge that remains is to design rules that promote efficiency in the generation sector.

In the past year, the Federal Energy Regulatory Commission (FERC) has issued three proposed rules designed to encourage greater competition in the market for generating electricity. The rules provide guidelines that, if implemented, would reduce regulatory entry barriers for generating electric power, and would also specify appropriate compensation mechanisms for rewarding entrepreneurs. There are three key aspects of the proposed rules. The first is to define guidelines for administratively determining "avoided cost." Avoided cost refers to the cost that a utility does not need to incur (i.e., it avoids) if it purchases electricity from a third party. In order to promote efficiency, FERC defines avoided cost in a way that approximates the economic concept of marginal cost. The cost a utility avoids will depend, among other things, on the availability of other generating units, which in turn will depend upon the time of day or year at which the power is expected to be needed. These guidelines will help States avoid unnecessary capacity purchases. In particular, the rule is designed to avoid problems under PURPA where utilities were sometimes forced to purchase uneconomical power.

A second key feature of the proposed rules is that they promote market-based mechanisms that would eliminate the need for an administrative determination of avoided cost. The basic idea is to establish a market where firms are allowed to bid on supplying capacity that is needed. Other things being equal, the firm with the lowest bid would supply the additional capacity. For the market to work effectively, capacity needs to be defined carefully. The proposed FERC rule on bidding suggests that nonprice factors, such as those related to system reliability, be put into writing if they are a characteristic desired by the purchaser.

A third key aspect of the proposed rules, which will introduce greater competition into the electric power generation market, is the lowering of barriers for new entrants. An entire rule is devoted to defining a class of "independent power producers." Just as the name

implies, the independent power producers generate electricity for sale outside an area in which they have market power as long as they do not have control over key transmission facilities. The intent of the rule is to provide a framework so that such producers can compete without being subject to traditional rate-of-return regulation. Both utilities and nonutilities can be independent power producers. One implication of this rule is that it allows utilities that can to build inexpensive reliable sources of power to compete in markets outside of their area. Thus, for example, a utility operating in North Carolina could build a power plant in California to supply customers there if it were the lowest bidder. This increased competition will ultimately mean lower electricity prices for consumers and businesses, and it will also enhance the Nation's ability to compete abroad.

These proposed rules represent an important step toward developing a more efficient electric generation sector. However, much more needs to be done even in the context of generation. For example, one alternative to increased generation capacity is conservation. Several utilities have encouraged conservation through advertising, and in some cases, providing economic incentives to users that reduce demand. A more general policy that provides incentives for consumers and producers to put conservation efforts on an equal footing with capacity investments would promote further cost savings.

One important aspect not addressed by the proposed rules is the determination of needed capacity. Under current regulations, the local public utility and the public utility commission jointly make this determination. While such projections are made on the basis of demand forecasts, these demand forecasts are based on a set of prevailing prices that rarely reflect underlying costs. What is needed is a system where electricity users are asked to pay a price that reflects the costs they impose on the system.

Although widespread support exists for promoting greater competition in the electric generation sector, there is no consensus on what to do about transmission and distribution systems that are subject to economies of scope and scale. Competition in these areas may also be desirable. Indeed, in some cases, utilities are devising new arrangements, such as shared capacity rights, that will help spur competition.

It is possible to imagine both the transmission and distribution segments of the electric utility industry taking advantage of shared capacity rights. Indeed, after finishing with its rules on generation, FERC intends to take a closer look at opportunities for promoting competition in the transmission sector. The idea of shared capacity rights has been shown to work in practice. The key to its successful implementation in the electric utility industry and other segments of

the economy that are heavily regulated (such as telecommunications) is to design systems that would enable currently regulated utilities to adapt to a competitive environment.

Regulation of Oil and Natural Gas: Some New Developments

Energy regulation over the past two decades provides a textbook study of the effects on markets of price controls and government intervention. Fortunately, the wave of price controls introduced in the 1970s has for the most part been reversed. Price controls remain on some fuels, such as natural gas. However, controls on gasoline and crude oil prices were removed at the beginning of this Administration. The lessons to be learned from the experiments with price controls are clear. They lead to inefficiencies and shortages, and they typically exacerbate adverse impacts on the overall economy, such as those that resulted after the oil price hikes in the 1970s.

The transmission system for oil and natural gas remains regulated. The Administration recently moved to deregulate part of the oil pipeline network and set up a system of price caps for the remainder of the system. In addition, FERC has stated that it will reduce regulatory oversight of proposed rate increases by an oil pipeline if the pipeline lacks significant market power.

The States and FERC still regulate natural gas pipelines. The FERC has issued several rules and proposed rules that attempt to ease some of the problems in the supply of natural gas. One proposed rule focuses on allowing pipeline capacity rights to be bought and sold. This change would enhance the efficiency of the network by allowing the pipeline to be allocated to the highest valued uses.

The movement toward more complete deregulation of the natural gas industry should be promoted. It not only makes good sense from an economic point of view, but it is also important for environmental reasons. Natural gas is a clean-burning fuel that results in relatively low emissions of carbon dioxide. Thus, this fuel could be part of a strategy aimed at addressing concerns regarding global warming. Moreover, because the combustion of natural gas results in much lower levels of nitrogen and sulfur oxides than oil or coal, it could play an important role in reducing acid deposition.

In conclusion, the potential for increased deregulation in areas formerly thought to be natural monopolies is enormous. This potential lies primarily in areas characterized by network structures such as telecommunications, electricity, energy, water delivery systems, and air traffic control. Price caps, shared capacity rights, and other innovative approaches to regulatory reform should be pursued vigorously.

Privatization is a natural extension of deregulation. Eliminating government provision of services fosters competition by increasing the role of the market. Government provides a large array of goods and services that the private sector could also provide. Examples include the air traffic control system, the enrichment of uranium, and the postal service. From an efficiency point of view, the critical question is whether firms could provide a similar or improved menu of services at lower cost. The answer depends on the nature of the service; however, there is widespread agreement that the government now performs several tasks that the private sector could more effectively and efficiently handle. The motivation for keeping these functions within the sphere of government is usually to achieve objectives other than economic efficiency.

The rationale behind privatization—the movement of government activities to the private sector—is that the private sector can often provide services more efficiently because it is subject to the discipline of market forces. However, recent history suggests that even privatization measures that clearly promise efficiency gains are likely to encounter substantial political resistance. As with other regulatory reforms, the key to the success of privatization lies in designing institutions that will allow the beneficiaries of such change to compensate adequately those who stand to lose.

There are essentially three techniques for the privatization of goods and services now supplied by the government sector. One involves selling government assets to persons who will manage them privately. The sale of Conrail in 1987 is an example of Federal Government divestiture of an enterprise as a functioning unit. Assets also can be sold piecemeal; examples include the sale of obsolete military bases, loan portfolios, and surplus equipment.

A second privatization technique is contracting out, whereby government contracts with private firms to provide goods and services that it would otherwise supply directly. The Federal Government now contracts to purchase approximately $200 billion of goods and services annually. Contracting out usually results in cost savings because of the competition for contracts among vendors. A 1986 General Accounting Office study determined that additional opportunities for contracting out could result in the transfer of between 95,000 and 500,000 current government positions to the private sector, at annual savings ranging from $0.9 billion to $4.6 billion.

Contracting out is most likely to succeed when the terms and measurement of service delivery are clear and easily defined, where at least several firms have the capacity to perform the contract, where the contractor does not have to make large new capital expenditures,

and where the contract can be subject to regular renegotiation and renewal. Examples of areas particularly well-suited for contracting out include data processing, laboratory testing, and payroll services.

A third technique for privatization is the use of vouchers, through which the government, rather than directly providing goods or services, distributes chits, such as food stamps, that allow eligible consumers to purchase those goods and services from private suppliers. For example, the government now provides housing vouchers usable for rental payments to more than 140,000 low-income households as a substitute for public housing. A comparable proposal often discussed is the provision of education vouchers as a partial substitute for public schools (discussed in Chapter 5 of the 1988 *Report*).

In March 1988 the President's Commission on Privatization issued a comprehensive report calling for increased Federal Government use of privatization. Areas identified by that report as being especially well-suited for increased privatization efforts included low-income housing, housing finance, Federal loan programs, air traffic control, education, postal delivery, military commissary operation, prison operation, urban mass transit, and intercity passenger rail transportation. The Commission did not examine some other candidates for privatization, such as the uranium enrichment industry and the power marketing authorities, because the Congress has said that no Federal funds could be used to study privatization of these activities.

Postal delivery appears to have great potential for enhancement of economic efficiency through privatization. The U.S. Postal Service (USPS) is, in effect, a government-owned monopoly maintained by law, because the private express statutes reserve letter delivery for the USPS. Many aspects of postal delivery do not exhibit the natural monopoly characteristics that would preclude their competitive provision by multiple firms, and thus are good candidates for privatization measures. Some limited privatization of postal delivery has already occurred. The USPS annually contracts out about $3 billion of services, primarily long-distance mail transport and rural retail and delivery services. It also offers discounts to large mailers who pre-sort their mailings. In addition, private express couriers have been allowed since 1979 to deliver "extremely urgent" mail, subject to time of delivery or minimum price restrictions. These firms have grown dramatically. One private courier, for example, now handles more than 178 million pieces of urgent mail a year, and a second firm now controls more than 90 percent of the parcel market. The USPS has responded to this competition with its own express mail service, but has been able to retain only a small share of this market.

Further privatization of postal delivery could be encouraged in several ways. The Privatization Commission recommended the repeal of

the private express statutes, particularly with regard to third-class mail and rural delivery; repeal of the restrictions on private use of letter boxes; loosening of the restrictions on private delivery of urgent mail; and more widespread use of contracting out. The Commission also recommended that the possibility of private ownership of the USPS be considered, with priority being given to employee ownership, in whole or part.

One obstacle to more widespread use of privatization involves groups that are special beneficiaries of the government provision of certain goods and services. For example, when the Federal Government provides goods or services, it often charges a single price. This practice frequently results in the cross-subsidization of high-cost consumers by low-cost consumers. Those people receiving subsidies resist privatization measures that would end or reduce their subsidies. A second group of special beneficiaries are the government workers who now provide goods and services, and who receive a level of compensation and benefits that they might have difficulty retaining were their services provided in a market environment. The Privatization Commission noted that for privatization initiatives to be implemented, it would often be necessary to appease beneficiaries of the current status quo by adequately compensating them for the benefits they would lose as a result of privatization.

The resistance of current beneficiaries has successfully blocked most privatization initiatives in recent years. Support is growing, however, for more widespread use of privatization, based both upon the realization that substantial benefits can often be obtained, and upon the recognition that a trend toward privatization is accelerating worldwide. This trend is most obvious in the United Kingdom, but is visible also in many other countries, including some with socialist governments. If privatization measures can address the concerns of special interest groups, it may be possible to expand the sphere of competition and improve overall economic welfare.

RETHINKING SOCIAL REGULATION

Just as the nature and scope of economic regulation may be changing significantly, there are signs that new approaches to social regulation are emerging. Whereas economic regulation appears to be receding, there is no sign that social regulation is on the wane. A large portion of the public believes that the Federal Government should take a strong leadership role in protecting the public from environmental, health, and safety risks. Elected officials frequently accommodate these concerns by passing legislation aimed at "fixing" the problem. Unfortunately, much of this legislation has fallen far short

of its goals. In some cases, this was because the goals were highly symbolic. For example, 1972 amendments to the Clean Water Act called for the elimination of all discharges into navigable waterways by 1985—a solution that, even if possible, would have been prohibitively expensive. In other cases the legislation itself led to decisions that inadvertently increased both the risks and costs to society. For example, the Consumer Product Safety Commission requirement for child-proof caps on products, such as aspirin, appears to have led initially to an increase in the number of poisoning accidents. Evidently parents became more lax about leaving hazardous products within the reach of children.

Agencies involved in social regulation tend to specialize in one of two areas. "Standard-setting" agencies focus on defining acceptable levels of risk and setting standards accordingly. These agencies seek to lower the current amount of risk society faces from activities such as breathing polluted air, working in hazardous areas, being exposed to excessive airport noise, and driving automobiles. Each agency faces the burden of proof, both legally and politically, in setting standards. By and large the standard-setting agencies seek to reduce the levels of risk that are already commonplace in society.

A second type of regulatory agency focuses on screening new risks by requiring manufacturers to prove that their product is not harmful. Absent such "proof," the agency may prohibit the product from being sold to the general public. While statutes for standard-setting agencies sometimes require a recognition of the costs imposed on the regulated, statutes for screening agencies rarely contain such provisions. Consequently, agencies are not permitted to weigh the safety of a new product against the safety of a product it would replace. Moreover, screening agencies often need not justify, either to the courts or the Congress, the costs, or forgone benefits, of prohibiting the sale of potentially valuable products.

There has been increasing recognition that the legislative mandates underlying both kinds of regulatory approaches lead to inefficiencies. Indeed, one of the most important challenges that remains is to design regulatory institutions that achieve social objectives more efficiently. Recently, several agencies have attempted to implement some innovative reforms aimed at streamlining and improving the regulatory process. The following review highlights a few of the more noteworthy reforms and identifies some of the challenges that remain.

THE EXPANDED USE OF MARKET INCENTIVES

In the 18 years since its establishment, the Environmental Protection Agency has developed a large and still growing body of regulations to cope with a wide range of environmental problems, including

toxic dumps, acid rain, and smog. The EPA's approach to environmental management has been rigid, allowing companies little flexibility in meeting mandated environmental targets. Unfortunately, as with all highly centralized approaches to problem-solving, this command-and-control approach fails to take advantage of important information. Firms, not regulators, have the detailed knowledge about pollution control costs that is crucial to expensive approach to cleaning up the environment.

Regardless of one's view of the value of environmental improvements, EPA's rigid regulatory strategy has clearly wasted a substantial portion of the Nation's investment aimed at improving air quality. The cost of air pollution control during the 1980s has averaged more than $30 billion annually, and economic studies indicate that more cost-effective pollution control strategies could have achieved the same degree of environmental quality for billions less. The combination of political pressures and legislative mandates from the Congress has made it difficult for EPA to accommodate concerns about the cost of regulations.

Over the past decade EPA has undertaken several modest reforms that allow firms greater flexibility in meeting environmental standards. By far the most ambitious of these is the emissions trading policy, which includes the well-known bubble program and three lesser known programs. The basic idea of emissions trading is that firms, given the opportunity, can often devise less costly ways to control their emissions than can regulators. The emissions trading policy is an attempt to take advantage of this fact by creating markets in the *de facto* rights to pollute. Trading of these rights within and between firms can increase efficiency by concentrating air pollution control efforts on those emission sources that cost the least to control.

On balance, emissions trading has produced a mixed bag of accomplishments and disappointments. The program has afforded many firms flexibility in meeting emission limits, and this flexibility has resulted in significant aggregate cost savings—in the billions of dollars—without sacrificing environmental quality. However, these cost savings represent only a small portion of the total potential savings. Far less than 1 percent of the total stock of emissions has been traded, and economic studies suggest that trading could be much more active.

An important reason that more active markets have not emerged is that the emissions trading program has been the source of a great deal of controversy over regulatory reform. The EPA and local pollution control agencies have tried to minimize this controversy by placing constraints on the use of emissions trading. Unfortunately, some

of these constraints have dampened industry's interest in making greater use of this exciting regulatory alternative.

The politics of emissions trading can best be understood in terms of a struggle over the nature and distribution of property rights. Environmentalists and industry disagree over who is entitled to pollute and at what levels. Despite these differences, the reform represents a constructive attempt to cut the cost of regulation. Markets have emerged and performed better than traditional command-and-control regulation.

Several positive market-based reforms have followed in the footsteps of emissions trading. For example, in 1982 EPA implemented a "lead trading" program designed to lower the cost of achieving the phase-out of lead in gasoline. Overall, EPA estimated the program would save more than $200 million annually when it was in operation. Similar market-based programs have been proposed for such diverse problems as acid rain and the depletion of stratospheric ozone. If implemented for acid rain, a trading program could save tens of billions of dollars compared with more onerous command-and-control methods that would require power plants to use scrubbers to remove emissions of sulfur oxides.

THE IMPACT OF SOCIAL REGULATION ON INNOVATION

While regulatory screening can protect the public from certain risks, it can also have undesirable side effects. Screening can, and sometimes does, lead to the banning of products whose expected benefits outweigh their costs because the screening procedure frequently focuses almost exclusively on a narrow definition of risk. Since 1958 the Delaney Clause has required the Food and Drug Administration (FDA) to prohibit any food additive found to cause cancer in either man or animals. Such zero-risk strategies do not permit explicit comparison of the costs and benefits of various chemicals. Thus, screening of new risks can serve as an entry barrier that limits the introduction of new products, even in cases where the new item is less harmful than the one it would replace.

Ironically, zero-risk strategies can lead to marked increases in the level of risk. For example, EPA in 1983 denied a request for permission to use a fungicide on hops that was expected to increase a heavy beer drinker's odds of getting cancer by 1 in 100 million. The denial resulted in the continued use of existing fungicides thousands of times riskier. The EPA has recently dropped the zero-risk rule, replacing it with a policy that allows the introduction of pesticides if they pose a "negligible risk," currently set at 1 in 1 million. Such a policy encourages innovation on the part of chemical companies to

develop new and safer products to replace their existing, and frequently more dangerous, counterparts.

Screening agencies can dramatically affect the rate of innovation. A case in point is the Food and Drug Administration. Following the 1962 amendments to the Food, Drug, and Cosmetic Act, FDA required pharmaceutical companies to prove not only that their proposed new drugs were not harmful, but also that they were "effective" (i.e., do what the manufacturer claims they will). Several studies have documented the impact of the requirements on slowing the approval of "new chemical entities." One study showed that on average 54 new chemical entities were approved annually in the 13 years preceding 1962; for a similar period after the amendments, the average number fell to just over 16, a 70 percent decline. The decline in new drug innovations restricts the public's choice of remedies, a choice often made under a physician's guidance.

In response to criticisms about the FDA's slow approval process, which took on average 10 years to complete, the agency has attempted to streamline its screening procedures, both in the research and market approval stages. Administrative measures have reduced the average drug processing time by 2 years. In addition, the number of pending new drug applications fell from 343 at the end of 1983 to 204 just 3 years later. Moreover, the average annual number of new drug applications approved by FDA jumped from 86 between 1976–79 to 109 between 1980–86. More recently, FDA has agreed to help companies design drug studies that will produce data as early in the process as possible, and in certain cases to hasten the approval process for drugs where serious illness or death threatens, as in the case of acquired immune deficiency syndrome (AIDS) or hairy cell leukemia. The reforms in the FDA approval process could result in a significant increase in the number of new drugs provided that they actually reduce the costs to firms of getting drugs approved.

In the case of life-threatening diseases, such as AIDS, a strong argument can be made that the decision to use new experimental drugs should be left to the patient and the patient's physician. The President's Task Force on Regulatory Relief, chaired by the Vice President, recently endorsed efforts that would reduce the role of the Federal Government in such life-threatening situations. The FDA could expedite the process by conditionally approving drugs after initial investigations show them to be safe. Further testing could then be performed in the field after issuing the drug with proper warnings to both physicians and patients, rather than requiring that such testing be done in industry laboratories.

In addition, the Drug Export Amendments Act of 1986 allows FDA to approve applications to export drugs not yet approved for domes-

tic use, but sanctioned under a foreign country's regulations. By allowing the export of such drugs, FDA has provided additional incentives to pharmaceutical manufacturers to develop and produce new drugs in the United States. Not only will this procedure help the domestic drug industry to compete globally and aid foreign citizens, but it will improve the health of Americans as well by spurring domestic product innovation.

One of the biggest challenges for screening regulation will be in the emerging field of biotechnology. The United States has the potential to be a commercial giant in this field while still protecting the public from unnecessary harm. The development of new technologies in this field can lead to important applications in agriculture (such as pest and climate resistance), medicine (such as the FDA-approved recombinant DNA-derived human insulin), containing oil spills, and cleaning up hazardous waste sites. Worldwide demand for biotechnology products has been estimated to be as high as $100 billion annually by the turn of the century.

The proper Federal role in biotechnology is to ensure that new processes and products do not, on balance, pose an unreasonable risk to the public. Measuring the total risk of introducing a new product, however, is not straightforward. For example, if a Federal agency prohibits a biotechnology product from being applied as a pesticide to crops, it is implicitly favoring the use of currently approved pesticides. Regulators should not evaluate the risk of a new product in isolation, but should consider the current level of risk of the products it would replace.

This Administration has made strides in improving the regulatory coordination of approving new products by forming the Biotechnology Science Coordinating Committee. In 1986 this Committee issued a notice, approved by the President, that provided a framework for coordinating the policies of the six Federal agencies with oversight responsibilities. The notice concluded that regulation should focus on the risks of the organism itself, not the process that formed it. Thus, simply because a product could be labeled "biotech" did not warrant special (and frequently more stringent) consideration. Indeed, a National Academy of Sciences study argued that no unique hazards are involved in genetically engineered technology.

A number of new products have reached the marketplace. The FDA has approved nine therapeutic drugs, including a new anticancer drug and a new hepatitis vaccine. The FDA has also approved a human growth hormone, now marketed by two companies, for treating growth disorders in children.

Biotechnology products have been used in waging the war against deadly diseases as well, including the first vaccine tested for use

against AIDS. In all, more than 600 biotechnology products are now undergoing clinical trials, including special grains capable of growing in desert regions of drought-stricken Africa.

Although these new developments in screening procedures are encouraging, there is a fundamental design problem inherent in the current approach to screening: regulators are not given enough credit for allowing new products to reach the marketplace sooner. At the same time, they often have to shoulder a major share of the blame if something goes wrong after a new product or chemical is approved. Thus, screening procedures involving civil servants are likely to reinforce the status quo, which means that technological innovation is likely to be slower than it needs to be.

LESSONS AND CHALLENGES

It is always tempting to respond to a perceived social need by calling for government intervention of one sort or another. The experience to date with Federal regulation suggests the need to keep this impulse in check. This observation does not mean that regulation should be eliminated. It means that regulation should be applied judiciously. The challenge is to design institutions that create incentives for private market solutions to address problems, such as pollution, that can arise as a result of marketplace activity.

The strengths and limitations of some of the older approaches are now well understood. Price and entry regulation often leads to inefficiencies and tends to stifle innovation. Inflexible social regulations that specify in detail how firms should behave also tend to stifle innovation. It makes little sense to require a business to install an expensive pollution control device if it can devise a better way to achieve the same goal at half the price. Yet in many cases regulations do not provide firms with the incentive to search for such innovations.

Gains can result from a judicious application of marketplace incentives in traditional areas of economic regulation as well as social regulation. Calculating the gains from such activities and designing institutions that will enable the public to benefit from these gains are necessary steps in promoting constructive reforms. Strong political forces, however, protect the status quo. These political forces are not likely to change unless the configuration of underlying interest groups changes or there is a more widespread understanding of how current institutions often lead to inefficient and ineffective regulation. This understanding is promoted, in part, by successful examples of deregulation and successful changes in regulatory procedures that promote more efficient policies. It will also be promoted as the cost of onerous regulations is more widely recognized.

The United States now competes in a global marketplace. In order to continue to compete successfully, the Nation must develop approaches to regulation that promote technological innovation. This goal can be reached through gaining an understanding of the institutions that yield such innovation, and through asserting the political leadership necessary to meet the challenge.

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CHAPTER 6

Science, Technology, and the U.S. Economy

TWENTIETH CENTURY ADVANCES in science and technology have brought deeper understanding of the nature of matter and the origins of the universe, the vanquishing of many forms of disease and pestilence, efficient and economical worldwide communications, and human travel to the Moon. For example, the invention of the integrated circuit, with its seemingly unlimited applications, has been compared in importance with Gutenberg's movable type. The revolution in biotechnology, advances in recombinant DNA (deoxyribonucleic acid) research, and other breakthroughs in health technologies promise major advances in the fight against disease.

The United States has been in the forefront of these stunning accomplishments, and the U.S. Government has played a leading role in stimulating and undertaking the research and development needed to achieve them. The government has a keen interest in science and technology, because work in those fields relates directly to national security technologies, and also because the results of such research have significant economic consequences. During the past 8 years, this Administration has sought to reorient direct government involvement in research and development (R&D) and stimulate the forces of the private sector as well.

Advances in knowledge contribute importantly to the Nation's real economic growth; about one-half of all growth in output per capita has been attributed to technological knowledge and managerial and organizational know-how. Estimated rates of return to private industry's R&D spending range from 20 to 50 percent. More importantly, the rate of return to society is about double the private rate. Thus, R&D is a good investment for society. Because the returns to society typically exceed the returns to the sponsor of the research, however, the private sector has inadequate incentive to invest in R&D, particularly where the results cannot be easily appropriated for production and profit. Partly because of this underinvestment, the Federal Government supports R&D.

In short, government policy toward, and support for, scientific research and technological innovation are important for the future of America.

OVERVIEW

The purpose of this chapter is to provide an economics perspective on the debate over the appropriate policies to ensure the continued contribution of science and technology to U.S. economic growth. Like the other chapters of this *Report*, it examines changes in institutions and incentives over the longer term. This chapter does not attempt to provide a comprehensive review of U.S. science and technology (S&T) policy, nor of all the factors that affect the incentives of firms to invest in R&D and to innovate. Instead, it highlights some of the recent changes in U.S. approaches to science and technology.

The chapter first reviews international trends in science and technology that influence the relative U.S. position in science, in technology, and in innovation. It also reviews the U.S. position in the international trade of high-technology products and the role that technology plays in trade relationships. Based on this evidence, some of the fears of a declining U.S. position in science, technology, and high-technology trade are misplaced. Given economic conditions after World War II, the United States was able to become the dominant supporter of R&D, which led to technologically advanced products. As other nations recovered economically, they too began to invest in R&D. Thus, some decline in the relative U.S. position is to be expected. The increasing S&T capabilities of U.S. industrial partners provide an opportunity, as more countries are sharing the costs of technological advances, sharing basic research, and providing benefits to consumers in the form of technologically advanced products. However, those capabilities also present a challenge to American producers. An area of growing concern to U.S. industry, based on its trade performance, is its manufacturing technologies, and industry is taking a variety of steps to remedy its deficiencies. Some of the current policy debate is over the appropriate Federal role in this area.

This chapter also examines the institutions and incentives in the S&T policy environment. It highlights several S&T policy initiatives of the 1980s aimed at strengthening the incentives of U.S. industry to invest in R&D: taxes, antitrust, and intellectual property protection. It reviews the incentives and new institutional relationships that encourage the transfer of research results to industry from the academic sector and government laboratories. The latter initiatives play an important role in facilitating the rapid transfer of science into commercial applications.

Ultimately, for society to benefit from investments in R&D, the results must be turned into products, processes, and services—technology must get off the shelf. A major concern is the broad economic benefit of federally supported research. As described in this chapter, a strong technological position by U.S. firms will not keep production from going offshore, but this result does not preclude U.S. consumers and investors from benefiting from that technology. In addition, the U.S. research system is very open. International research collaboration—whether formal or informal—benefits the United States as well as the foreign partners by improving the productivity of the R&D process. Where exclusive property rights to research results can be established, however, the U.S. Government has already taken steps to protect such knowledge.

Recommendations for improving the efficiency and the effectiveness of the R&D and innovation process must recognize the decentralized and competitive S&T system. The system has served the United States well. While the S&T systems of other countries differ in some ways from that of the United States, they are not demonstrably superior. However, the incentives and institutional relationships within the United States need to be examined to ensure that barriers do not inadvertently limit the ability of the public's investment in R&D to benefit the Nation as a whole.

INTERNATIONAL COMPARISONS

The United States continues to be a leader internationally in science, but U.S. firms face strong technological competition from other major industrial countries. Japanese firms are particularly capable in implementing new manufacturing processes and in commercializing technologies.

SCIENCE AND TECHNOLOGY INPUTS

Chart 6–1 characterizes the national R&D effort by source of funds, performer, and character of work (basic research, applied research, and development). This chart provides background for the discussion in this section.

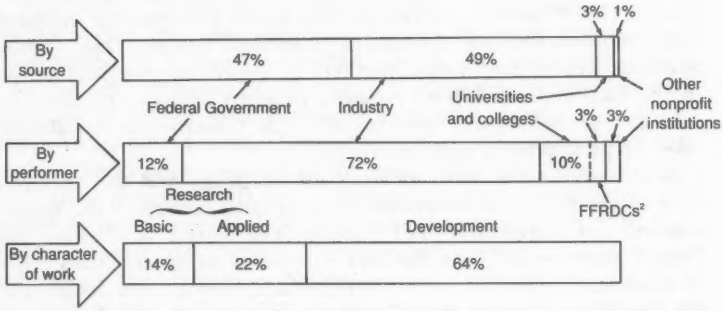
Aggregate Research and Development Spending

Total U.S. expenditures on R&D, adjusted for inflation, have grown dramatically since the 1950s. Real spending (in 1982 dollars) grew from $20 billion a year in 1953 to $104 billion in 1987. National R&D funding trends for France, West Germany, Japan, the United Kingdom, and the United States for the period 1965–86 are shown in Chart 6–2. In 1986 the United States spent more on R&D than France, West Germany, Japan, and the United Kingdom combined.

Chart 6-1

The National R&D Effort

Expenditures for research and development=$124.9 billion, Fiscal Year 1988[1]



[1]Estimated.
[2]Federally funded research and development centers administered by universities and colleges.
Source: National Science Foundation.

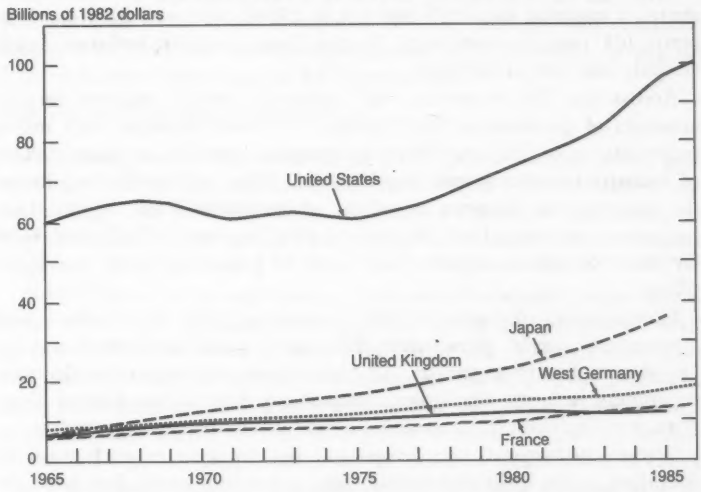
However, the U.S. share has declined; 20 years earlier, U.S. expenditures were more than twice the size of the combined expenditures of those four countries.

Japan, West Germany, and the United States now spend roughly the same proportion of their gross national product (GNP) on R&D. Estimates for 1986 (the latest year for which data are available for all countries) show that Japan devoted 2.8 percent of its GNP to R&D, while the United States and West Germany each spent 2.7 percent. Despite steady growth in non-Federal R&D, declines in the ratio of R&D to GNP in the United States have resulted from lower Federal R&D spending on defense and space. For example, the U.S. ratio peaked at 2.9 percent in 1964 and dropped between 1968 and 1979, reflecting the decline in Federal R&D for defense and space. West Germany and Japan have the highest percentages of GNP devoted to nondefense R&D expenditures. Japan's ratio stood at 2.8 percent in 1986, compared with 2.5 percent for West Germany and 1.9 percent for the United States. Based on absolute amounts of nondefense R&D funding, however, the United States still outspends these two industrial competitors.

But which measure of national R&D spending determines technological capabilities: absolute levels of spending or share of GNP? For

Chart 6-2

National R&D Expenditures, Selected OECD Countries



Note.— Dollar conversions are based on OECD purchasing power parity exchange rates and U.S. Department of Commerce GNP implicit price deflators. Data for 1984-86 are preliminary or estimated. Data for United Kingdom are not available for 1965; 1964 data used.

Sources: National Science Foundation, Organization for Economic Cooperation and Development, and national sources.

some purposes, absolute R&D spending levels may well be more relevant in providing benefits to society. The basic output of R&D is knowledge, which can be spread over any number of units of output; increased production may require no additional knowledge. But comparisons of absolute levels of spending are also limited. One problem is that new knowledge is not equally relevant to all sectors of the economy. Because knowledge relevant to one industrial sector, such as pharmaceuticals, may not be applicable to another, such as electrical machinery, a more diverse economic base may require more R&D to sustain the pace of technological innovation across all sectors.

Major changes in a country's ratio of R&D to GNP do indicate a shift in the emphasis that the country places on R&D. The full significance of that shift in emphasis, however, depends on where the reallocated funds are spent.

Industrial Research and Development

Industry supports a major share of national R&D in the five industrial nations examined here. Furthermore, industry's share increased over the 1970–86 period. Industry in Japan supports the largest share of national R&D (69 percent in 1986), followed by West Germany (61 percent that year). In the United States, industry funds roughly one-half of all R&D.

Across the five countries, the industrial sector receives varying amounts of government R&D funds. For those countries with major expenditures on defense R&D, government provides a greater share of industrial research and development. Thus, in the United States, the government finances one-third of industrial R&D. In contrast, Japanese companies fund 98 percent of all industrial R&D, and West German companies support more than 80 percent of their own R&D effort.

Comparisons of business R&D (conducted with both private and government funds) show some differences in national emphases on broad manufacturing sectors. All five nations emphasize the electrical equipment industry (excluding computers). France, the United Kingdom, and the United States also particularly emphasize aerospace.

These comparisons are based on distributions of each nation's spending in the industrial sector, not on funding levels that more directly affect technological capabilities in particular sectors. Nonetheless, the relative emphases within a nation identify what sectors it views as important and, to the extent that R&D-intensive products are internationally traded, where competition is likely to lie and gains from trade are most likely to occur.

Scientists and Engineers

Both the United States and Japan send a much larger proportion of their young adults to college than do France, West Germany, and the United Kingdom. Similar proportions of American and Japanese college-age populations receive first university degrees (25.9 percent for the United States and 22.6 percent for Japan in 1986), while fewer than 10 percent do so in the other three countries. Japanese universities award a somewhat larger proportion of their degrees in the natural sciences and engineering (27 percent of all degrees compared with 20 percent in the United States). Significant differences arise, however, between the two countries in fields of emphasis. Almost three-quarters of all Japanese students in science and engineering are in engineering, while slightly more than one-third of such American students obtain engineering degrees.

The United States has the largest concentration of scientists and engineers engaged in R&D, as a proportion of its labor force, fol-

lowed closely by Japan. Between 1965 and 1986, the other four nations increased their relative use of scientists and engineers to perform R&D, while U.S. employment of R&D scientists and engineers as a share of the labor force reflected fluctuations in the ratio of R&D to GNP. The absolute number of U.S. scientists and engineers engaged in R&D has been increasing since 1973, however, giving the United States a large base of R&D personnel.

SCIENCE AND TECHNOLOGY OUTPUTS

Policymakers are interested in the S&T system because of its generation of knowledge and ideas and the linkages between science and technology. Several indicators of these outputs are available, although they are only proxies for, not direct measures of, the knowledge and ideas generated.

Nobel Prizes are a well-known indicator of scientific achievement. Since 1945 U.S. citizens have received about 50 percent of such prizes awarded in science. Based on where the research was done, the United States has hosted an even larger fraction of the prize-winning work over the past four decades. But the Nobel Prize is not a good indicator of the current strength of science in a nation because the award lags the performance of the work by years, even decades. On a per capita basis, of the nine countries whose citizens have received the most Nobel Prizes in science since 1970 (population in 1980), the United States ranked sixth, behind Sweden, Denmark, Switzerland, Belgium, and Great Britain; Japan ranked ninth, behind West Germany and France.

Citations or references to papers and patents are one indicator of the influence or importance of the cited paper or patent. Based on citation measures, U.S. scientific research is of very high quality. The U.S. share of citations made in a large set of scientific journals published worldwide was about 40 percent higher than the U.S. share of publications in that set.

Patent Shares

Because a patent protects an invention only in the country in which the patent is issued, foreign filings for U.S. patents are indicators of potential foreign competition. As might be expected when other nations increase their research capabilities, the U.S. share of some S&T outputs has fallen. The U.S.-invented share of U.S.-issued patents has fallen from 73 percent in 1970 to 52 percent in 1987. This declining share also reflects an 8 percent fall in the actual number of patents granted to U.S. inventors, even though total U.S. patents granted increased 29 percent. Japanese inventors have increased their share of patents received fivefold, more than the inventors of any other coun-

try. Their share of U.S.-issued patents increased from 4 to 20 percent.

Links Between Science and Technology

Although science generates knowledge used for commercial applications, that linkage can be difficult to identify and quantify. One approach to quantifying this relationship identifies the use of academic research in industry and the value of the time that such research saves a firm in its innovation process. Based on this measure, the contribution of academic research to industry is large; using conservative assumptions, the social rate of return is estimated to be at least 28 percent.

Another approach is to examine the connections by using publications as a proxy for science and patents as a proxy for technology. Citations from patents to the scientific literature help to establish links between science and its technological applications. In general, however, the knowledge most frequently cited by patents is contained in other patents. The patents described here are those issued by the U.S. Patent and Trademark Office to residents of various countries, and the references are those cited by the U.S. patent examiner. Before granting a patent, the patent examiner must identify the prior art, i.e., the knowledge at a particular time that determines whether an invention is new and not obvious to someone with normal skills in that area.

The science intensity of inventions from the five major industrial countries has been increasing, as measured by the average number of scientific publications cited per patent filed in the United States. Between 1975 and 1986, patents issued to U.S. inventors have grown most rapidly in science intensity. The science intensity of Japanese patents is now the lowest of the five countries, suggesting that advances in Japanese technology are based on improvements in other patented technologies. At the beginning of the period studied, patents of inventors from the United Kingdom were the most science-intensive, but patents of U.S. inventors overtook them in 1980.

Earlier studies of the connections between the development and application of scientific knowledge found lags exceeding 20 years, but some evidence now suggests that the lag is shrinking. Patent filings are showing a much shorter time between publication of research results and their incorporation into a patentable technology: science is being applied sooner. The median age of scientific publications cited in U.S.-issued patents over the 1975–86 period has been declining for all five countries. Throughout the period, patents issued to U.S. inventors have cited the most recent publications, followed by patents issued to Japanese inventors. West Germany has consistently cited the oldest publications. In 1975 the median age of

publications cited by U.S.-owned patents was just under 8 years; by 1986 the median age was slightly more than 6.5 years. In some rapidly growing fields such as biotechnology, recent patents cite research, including basic research, of about the same age as the literature cited in research articles on bioscience.

INDUSTRIAL INNOVATION IN THE UNITED STATES AND JAPAN

Before society benefits from the full value of R&D spending, the knowledge gained must be converted into products, processes, and services. Thus, the factors involved in this conversion are an important component of any comparison of innovative capabilities.

For the manufacturing sector overall, Japanese and American firms that do R&D spent roughly the same proportion of net sales on R&D in 1985 (2.7 percent in Japan versus 2.8 percent reported for company-funded R&D in the United States). Within manufacturing, however, the ratios of R&D to net sales vary. For example, ceramics and iron and steel are more R&D-intensive in Japan, while the professional and scientific instruments sector is significantly more R&D-intensive in the United States.

Recent studies show that American and Japanese firms devote similar proportions of their R&D expenditures to relatively risky projects (about one-quarter of their R&D to projects with less than a 50 percent estimated chance of success) and to long-term projects (almost 40 percent of R&D to projects expected to pay off after 5 years). This similarity represents a significant shift for the Japanese from the 1970s, when Japanese industrial R&D was composed largely of low-risk and short-term projects. Japanese firms appear to have changed both the breadth and depth of their R&D and in these ways more resemble American firms.

Nonetheless, differences remain in the composition of American and Japanese industrial R&D. The U.S. firms studied devote about two-thirds of their R&D expenditures to product technology (new products and product changes) and about one-third to process technology (new processes and process changes). Japanese firms reverse the proportions. This difference cannot be attributed simply to different industry mixes at the aggregate level. Within the chemicals industry, where firms in both countries emphasize product innovations more than does the sample as a whole, U.S. firms still devote a greater share of their R&D to product than to process innovation than do the Japanese.

American and Japanese firms need about the same time and incur similar costs to carry out innovations based on technologies developed within the firm. Recent work suggests, however, that Japanese firms enjoy advantages over U.S. firms with respect to innovations

based on external technology, that is, technologies originating outside the firm. Many innovations based on external technology involve new products that imitate others in important respects. The contrast between Japanese and U.S. firms shows up particularly in the commercialization stage of the innovation process (beginning when the product is developed and ending when it is introduced commercially), as distinguished from the R&D stages. In the United States the commercialization of an innovation based on external technology requires more time and about as much money as the commercialization of one based on internal technology. Japanese firms, however, are able to commercialize innovations based on external technology faster and at less cost than those based on internal technology.

Japan's advantage here depends on how many U.S. innovations are based on external technologies. However, modifications of external technologies are reported to be an important source of U.S. innovations. Efforts of Japanese firms to improve their S&T capabilities largely involved catching up with U.S. firms. In these circumstances, their greater efficiency in adapting external technology affords a clear advantage. Yet this superior efficiency of Japanese firms in commercializing external technologies does not appear to be attributable solely to the advantages of being a follower. In carrying out such innovation, they have been more likely than American firms to adapt the imitated product significantly and reduce its production costs substantially. The Americans seem more inclined to invest heavily in marketing startup costs, emphasizing marketing strategies more than technical performance and production cost.

The ultimate arbiter of the value of R&D strategies is the market. Before examining how U.S. firms have fared in international high-technology trade, however, a look at how the U.S. and Japanese governments develop their S&T policies—policies that influence the S&T capabilities of industry—is in order.

GOVERNMENT RESEARCH POLICY IN THE UNITED STATES AND JAPAN

The Japanese government accounts for only 21 percent of its nation's R&D funding, but it nevertheless plays an important role in science and technology. It identifies new directions for R&D efforts and encourages R&D initiatives by industry through financial incentives, selective R&D funding of particular R&D projects, and the creation of special institutes. Japanese S&T policy develops from consultation and consensus. The Council for Science and Technology, the primary authority for developing Japanese S&T policy, recommends long-term national policy objectives but funds no R&D. It recently identified the need for a basic shift in emphasis toward seeking creative, fundamental breakthroughs that benefit not only Japan but also

the international community. Its latest recommendation stressed basic research, greater involvement of foreign researchers, and industry and university cooperation.

Almost one-half of the Japanese Government's S&T budget (which includes some expenditures that do not meet the narrower definition of R&D) in 1985 went to the Ministry of Education, Science, and Culture (Monbusho), which administers Japan's national universities and their affiliated research institutes. The Japanese approach (also used in many European countries) provides long-term government support to public universities for faculty R&D activities. In contrast U.S. Government agencies fund most university research on a shorter term and competitive basis.

With 27 percent of the government's S&T budget, the Science and Technology Agency funds and conducts basic and applied research. It also directs the Japan Research and Development Corporation, which encourages the commercialization of promising R&D developments at the national universities and research institutes.

The Ministry of International Trade and Industry (MITI) spent 13 percent of the government's 1985 S&T budget. While MITI wielded substantial power over Japanese industry during the 1960s and early 1970s, controlling foreign exchange, technology licensing from abroad, and tariffs, it has largely lost those powers. Currently, MITI tries to influence the private sector through using its R&D funds to leverage higher industrial R&D funding. Within MITI, the Agency for Industrial Science and Technology (AIST) sponsors development of technologies with potential commercial value, much of which is carried out in AIST-administered national and regional industrial research institutes. The AIST also administers special incentives, such as conditional loans (which are included in the S&T budget) and tax deductions for private-sector technology development.

The two countries also differ in how they carry out long-term S&T planning. The Japanese Government has conducted major formal forecasting exercises that included large sections of the industry, government, and academic communities in the forecasting process. Every 5 years Japan's Science and Technology Agency sponsors these forecasts, which combine the "science push" and "demand pull" perspectives on technological innovation. Among the areas ranked highest in terms of future Japanese S&T needs in the most recent survey are cancer; storage and disposal of radioactive solid wastes; automatic protocol conversions to facilitate information flows between communication networks; advanced software verification technology for rapid development of error-free, large software systems; antivirus agents for treatment of viral diseases; and industrial application of superconducting materials.

The accuracy of forecasts that reach 30 years into the future is open to question, particularly where unforeseen developments may change opportunities. Nonetheless, the Japanese forecasts help establish R&D priorities. Furthermore, some observers say that thinking about longer term applications encourages Japanese industry to monitor external research and more quickly adopt the findings.

It is not necessarily advisable, however, for the United States to make its own 30-year forecasts. Such forecasts tend toward conservatism, fail to anticipate some of the more creative scientific advances, and may lead to a consensus that encourages an excessively narrow R&D focus. Rather, the decentralized U.S. system might benefit more from involving potential users of basic and applied research in an R&D agency's process of planning and setting priorities.

HIGH-TECHNOLOGY PRODUCTS AND U.S. TRADE

A product's life cycle and its manufacturing process affect its producer's ability to compete. The importance of performance versus cost characteristics for marketing a product varies with the stage of its life cycle. At the initial innovation stage, the producer's technological lead is the key factor in determining its competitive position. As the initial demand is met and more competitors arise, cost and quality become much more important in generating sales. The location of production can change during the stages of the product life cycle. At the initial R&D stages, the availability of skilled technical labor is important. Later, R&D inputs become less important, and the usual determinants of production location come into play: wages, taxes, transportation, and access to markets. In rapidly changing technologies, a product may never get to the mass production stage, or only be mass-produced for a short time. Thus, the ability to shift quickly to another product can be a critical competitive strategy.

Judging from the success of U.S. multinational firms in maintaining world market shares, the diminished U.S. trade position may result less from deficiencies in American technological leadership than from other factors—productivity, wage rates, taxation, cost of capital, domestic inflation, and exchange rates. As described in earlier chapters, many of these factors that affect cost and quality have recently become more favorable to U.S.-based production. American firms need a policy environment that helps them to benefit from the use of their technologies wherever they produce. Improved protection of intellectual property in countries where such protection is weak can help U.S. firms in this regard, and it can also encourage increased U.S. investment in those countries.

CHARACTERISTICS OF THE HIGH-TECHNOLOGY SECTOR

No commonly accepted definition of high-technology industries exists. These industries are said to make significant use of scientific, engineering, and other technical personnel and to invest in a greater than average level of R&D funding, adjusted for industry size. A definition of high-technology industries based on these R&D-input criteria thus include industries that may differ in market structure, labor composition and compensation, type of product, and the degree of economies of scale. High-technology industries thus defined may also vary substantially in rates of employment and output growth. One study of the 1976–80 period found that some high-technology industries experienced employment growth in excess of 75 percent, while other industries contracted their work force by 50 percent. Several industries with rising levels of output showed slow or negative employment growth.

U.S. TRADE IN HIGH-TECHNOLOGY PRODUCTS

Some research distinguishes between the competitive position of U.S. firms and that of the United States as a geographic location for production. Companies that become multinational in their operations reduce to some extent their dependence on home-country determinants of competitiveness. If home-country production becomes more expensive relative to foreign production because of rapid inflation at home, because the exchange value of the home country's currency has risen, or because labor has risen in price or decreased in efficiency, the multinational firm has some opportunity to shift its production to locations in other countries.

The export shares of all U.S. firms and U.S.-based multinationals were about equal in 1966 (about 17.5 percent of world exports), but the multinationals subsequently maintained their share while that of U.S. firms as a whole declined (to 14 percent in 1984), particularly during the early 1970s. The parent firms of the U.S. multinationals did not escape the forces that led to the fall in the U.S. export share, but they fared better—the fall in the parents' share was less than that of all U.S. firms. The success of exports from their foreign affiliates was largely responsible for maintaining the multinationals' share of world exports.

The distribution of exports among industries reveals the comparative advantages of the United States and its multinational firms. If the multinationals' share of exports in an industry exceeds the export share of all U.S. firms in that industry, U.S. multinationals are regarded as having a comparative advantage in that industry relative to the United States as a country. Among the major industry groups, the multinationals showed such comparative advantages in chemicals,

electrical machinery, and motor vehicles. Such advantages change with the exchange rate and differences in productivity growth at home and abroad.

Both R&D intensity and advertising intensity (i.e., marketing) seem to be major factors in the comparative advantage of U.S. multinationals. Many studies associate R&D intensity with the comparative advantage of the United States as a country, and the same R&D intensities are even more strongly related to the comparative advantage of U.S. multinationals.

The United States is relatively less export-oriented than other industrial nations within the Organization for Economic Cooperation and Development (OECD). It has a large domestic market, and its shares of OECD production substantially exceed its shares of OECD exports. The United States also accounts for large shares of OECD production across all sectors, even in those for which, based on the structure of exports, it has no apparent comparative advantage.

High-technology goods account for an increasing share of U.S. trade. Between 1981 and 1987, the high-technology share of U.S. exports of manufactures rose from 35 to 42 percent, and the high-technology share of imports increased from 22 to 25 percent. During the 1980s the combination of slower growth of U.S. exports of high-technology products and the steady increase of such imports led to a dramatic decline in the U.S. high-technology trade surplus. The sectoral trade balance dropped in current dollars from $26.6 billion in 1981 to $3.6 billion in 1985, and to a deficit for the first time of $2.6 billion in 1986. In 1987 the trade balance in the high-technology products sector became positive again at $0.6 billion. Despite this decline, U.S. trade performance in high-technology manufactures has been stronger than in less technology-intensive products. The U.S. trade balance in manufactures that are not high technology continued to deteriorate, going from an $11.2 billion deficit in 1981 to a $138.3 billion deficit in 1987 despite the recovery in exports in 1986 and 1987.

The product groups making up the high-technology sector in these trade statistics are defined at the three-digit standard industrial classification level. While these measures use a definition of high-technology goods that takes into account use of R&D-intensive inputs, each group contains products of varying levels of technological sophistication. Thus, a declining trade balance in a particular product group may in fact reflect an increase in imports of the less sophisticated goods in the product group, rather than changes in the most technologically advanced products. An illustration of this effect is the large increase in U.S. imports of telecommunications products following the deregulation of the telecommunications industry and the breakup

of American Telephone and Telegraph on January 1, 1984. Far East nations other than Japan accounted for almost 30 percent of U.S. imports of telephone and telegraph equipment in 1986, and these countries supply mostly low-cost, low-technology telephone instruments.

The emergence of the East Asian newly industrializing economies (NIEs) as major suppliers of products at the low-technology end of high-technology product groups has eroded the U.S. surplus in high-technology trade. American imports of high-technology products from the East Asian NIEs grew faster between 1980 and 1986 than overall U.S. imports of high-technology products. In 1986, East Asian NIEs accounted for about 18 percent of U.S. imports of these products, making these countries key participants in U.S. high-technology markets.

The semiconductor market illustrates the complexities of identifying the role of technology in U.S. competitiveness. Semiconductors are diverse products, ranging from standardized commodity chips to chips custom-designed for specific applications. Technological forces have dictated marketing strategies since the beginning of the industry. The average useful life of many of these products is short. For example, the product life cycle for dynamic random access memory (DRAM) chips has been about 3 years since the early 1970s. Another characteristic of the semiconductor industry is rapid price reductions.

Several factors complicate any assessment of the competitive position of the United States or of U.S. firms in semiconductors. Trade data reflect intracorporate trade in both imports and exports; U.S. offshore manufacturing, primarily in Southeast Asia, generates about one-half of U.S. trade in semiconductors. In addition, some of the largest U.S. producers consume their output internally, and reliable production data are difficult to obtain for such captive producers. In 1978, companies headquartered in the United States (excluding captives) produced 55 percent of global semiconductor revenues; in 1986 they produced 40 percent. Shipments from U.S.-based plants (including captives) held steady at nearly 60 percent of global semiconductor shipments until after 1982, but fell to 52 percent in 1985.

Several factors explain most of the U.S. semiconductor industry's losses of market share in the mid-1980s: faster growth of the Japanese home market, which is supplied primarily by Japanese firms; exchange-rate movements; and worldwide overcapacity and aggressive Japanese pricing, reflected in the 1986 U.S. determinations of semiconductor dumping. The U.S. market share has eroded in products that require efficient manufacturing that can be provided by state-of-the-art process technology. The erosion is most extreme in the market for DRAMs, which demand high yields of good chips in large

quantities for economic production. By contrast, U.S. companies' market share has held up better where product design and customer relationships are primary and yields and price secondary; examples are microprocessors and microcontrollers and application-specific integrated circuits.

POLICY ISSUES OF THE 1980s AND BEYOND

Over the past 20 or so years, U.S. policies have evolved in light of a growing consensus that spending on science and technology is an investment in the Nation's future. Policymakers in the 1960s and 1970s sought to use S&T to meet national needs, e.g., in health, safety, environmental quality, energy, and transportation, and to foster continued economic growth. Policy debates focused on the role of the Federal Government in meeting these needs, the role of particular sectors such as small business, and the ability to use Federal Government policies to speed commercial implementation of new technologies.

There has been broad endorsement of Federal support for basic research. The Ford and Carter Administrations both adopted the view that the substantial decline in Federal support of basic research since the late 1960s, if allowed to continue, would have grave consequences for the United States. Both Administrations viewed basic research as a long-run national investment, and both backed these views with real growth in Federal basic research budgets. The current Administration continued providing substantial support for basic research, with a 52 percent increase in real expenditures between fiscal years 1981 and 1989 in the civilian agencies and 48 percent growth over all agencies. The Administration reemphasized the importance of basic research with a proposal in 1987 to double the budget of the National Science Foundation (NSF) over 5 years. The Congress supported this effort and increased funding for NSF by 10 percent in fiscal 1989, in excess of the 2 percent overall increase in domestic discretionary spending.

Other Federal policies in the 1970s focused on applied research and development directed at specific civilian technologies. Experience with many Federal Government efforts to accelerate the development of civilian technologies were expensive and unsuccessful in producing commercially viable processes and products (particularly in the energy sector after the decline in oil prices). As a consequence, the major civilian S&T policy initiatives of this Administration and the Congress in the early 1980s moved away from direct Federal intervention at the later stages of the innovation process. Instead, the policy focus has been on stimulating private investments in

R&D through increased incentives provided by taxes, antitrust exemptions, and strengthened protection for intellectual property rights. In addition, the Federal Government has paid increased attention to incentives for commercial use of R&D that it has financed for its own purposes.

During the 1980s there has been greater awareness of the international scope of science and technology. Some policy initiatives have emphasized strengthening protection of intellectual property internationally and the need for international research cooperation. During the latter half of the 1980s, concerns about U.S. competitiveness have also revived interest in direct Federal support of civilian technologies, particularly funding for industrial R&D cooperatives.

Use of government funds to support particular industries or technologies raises questions of how winners and losers are picked and whether R&D investments that industry is unwilling to make are to be encouraged. Complicating the issue is the fact that U.S. taxpayers are already directly funding nearly one-half of the Nation's R&D.

INCENTIVES FOR PRIVATE INDUSTRY

Recent S&T policy initiatives have sought to strengthen private incentives to invest in R&D and innovation, recognizing that the private sector is ultimately the arena in which research results must be commercially implemented.

Taxes

The Economic Recovery Tax Act of 1981 included a temporary 25 percent tax credit for incremental spending by industry on qualified research expenditures, over and above the average level of such spending for the previous 3 years. Some early studies concluded that this tax credit did not have a strong effect on R&D spending. They attributed the weak effects in part to uncertainty about duration of the credit and to the low effective rate of incentive (because credits are only available for increased spending over a rolling base that changes annually). Small business proponents have also pointed out the credit's limited applicability to newly established firms that are just beginning to fund R&D. The credit was to expire in 1986, but the Tax Reform Act of 1986 extended it at a reduced rate of 20 percent. The Congress has again extended the credit through 1989.

Antitrust

Policy debates in earlier years weighed incentives for innovation against the possibility for reduced domestic competition. More recently, policymakers have analyzed antitrust and competition issues in terms of global markets, and they are more willing to permit cooperation in the pre-production stages of research and development.

Cooperative research among firms has been going on in the United States on a limited scale for many years. The National Cooperative Research Act of 1984 enables firms to cooperate on research in the developmental stages before product sales competition occurs. Under the act, industrial research consortia can register their formation with the Department of Justice and the Federal Trade Commission, thereby avoiding treble damages if the joint venture is later found to violate antitrust statutes. Actions under joint R&D ventures are not deemed to be *per se* violations of any Federal or State antitrust laws, but they are to be judged on a rule-of-reason basis. More than 100 such consortia have registered since the law was enacted.

Intellectual Property

The Omnibus Trade and Competitiveness Act of 1988 gives holders of U.S. process patents greater legal rights to block imports or collect damages from persons who import into the United States products produced overseas using—without permission—processes patented in this country. The United States is also pursuing improved protection of intellectual property through its bilateral science and technology agreements, bilateral trade agreements, and, multilaterally, in the Uruguay Round of negotiations under the General Agreement on Tariffs and Trade. Domestically, the Drug Price Competition and Patent Term Restoration Act of 1984 extended the length of patent protection for pharmaceuticals to compensate for regulatory delays in getting them to market.

New technologies sometimes raise questions about the most appropriate form of protection for their underlying ideas. In semiconductor designs, the matter was resolved through creation of special copyright-like intellectual property protection with a duration of 10 years. Incentives in the semiconductor design legislation for international reciprocity in such protection have led to efforts in Japan, the European Community, and the World Intellectual Property Organization to protect semiconductor designs in this way.

Federal patent and copyright protection and State trade secrecy laws encourage private investment in R&D and in commercializing new technologies. Nonetheless, limits to such protections exist that reflect competing social objectives. The patent system guarantees inventors the right to exclude others from unauthorized use of their inventions, but only for a limited time (17 years from the date the patent is issued in the United States) and in return for disclosure. Trade secrecy has an unlimited duration in the United States, but the owner must safeguard the information against disclosure and is vulnerable to those who independently think of the same idea or who obtain it by legal means, such as reverse engineering. Copyright protection extends longer (typically, life of the author plus 50 years in

the United States) than patent protection, but it covers only the form of expression, not the underlying concept. Unlike a patent, a copyright is no protection against an independently developed work.

The tradeoff between encouraging creation of knowledge through the grant of exclusive property rights and permitting early and widespread use of knowledge at a low price has been long debated. These tradeoffs between incentives to invest and losses from restricted dissemination are reflected in the limited duration of legal protection given to intellectual property. Concern that firms would use exclusive patent rights to create or extend product monopolies has also led to restrictions on the use of patents, although some scholars have warned that fears of monopoly extension have led to unwarranted restrictions on the legitimate use of patents to capture economic returns attributable to the invention.

Other limitations of intellectual property protection hinge on the subject matter to be protected. For example, many observers view patent protection for manufacturing processes as more difficult to enforce than patents for products. Process innovations are often based more on superior integration of existing elements than on elements that are clearly new, and they may not meet the criteria for patentability. In addition, infringement of process patents is often less easy to detect and to demonstrate than infringement of product patents.

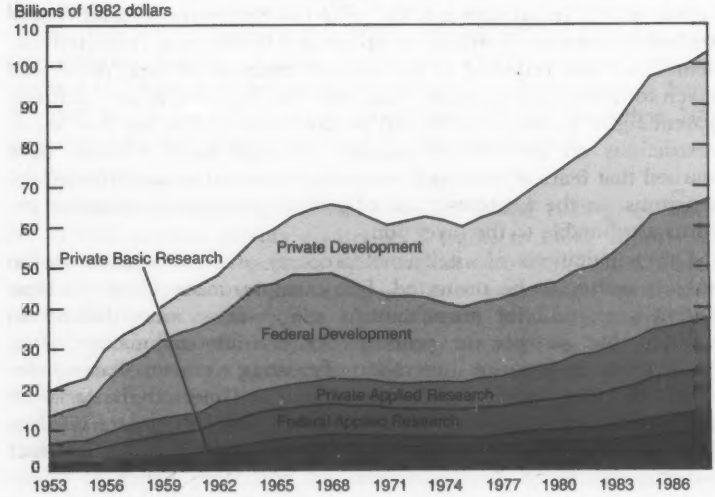
Studies have found variations in the importance of patent protection to firms that innovate; patents are most important for pharmaceutical and chemical companies. The ability to protect intellectual property is not, however, unimportant in providing a competitive advantage in product and process innovation. Rather, patents are not the only way to gain this advantage. For example, a recent survey of U.S. firms in a variety of industries found that lead time, secrecy, and moving down the learning curve quickly (so costs fall as cumulative output and production experience increase) also played important roles in protecting the competitive advantage of an innovation. From a policy perspective, however, government cannot readily provide these other forms of advantage; a firm's learning, secrecy, and production experience must come from within.

FEDERAL FUNDS FOR RESEARCH AND DEVELOPMENT

The Federal Government and the private sector support all stages of R&D, as shown in Chart 6–3. Development expenditures take the largest share of each sector's R&D spending and basic research the smallest. The government's share of national R&D expenditures has varied between 46 and 66 percent, depending on national priorities and the role of Federal R&D in meeting them.

Chart 6-3

Federal and Private Funding of Research and Development



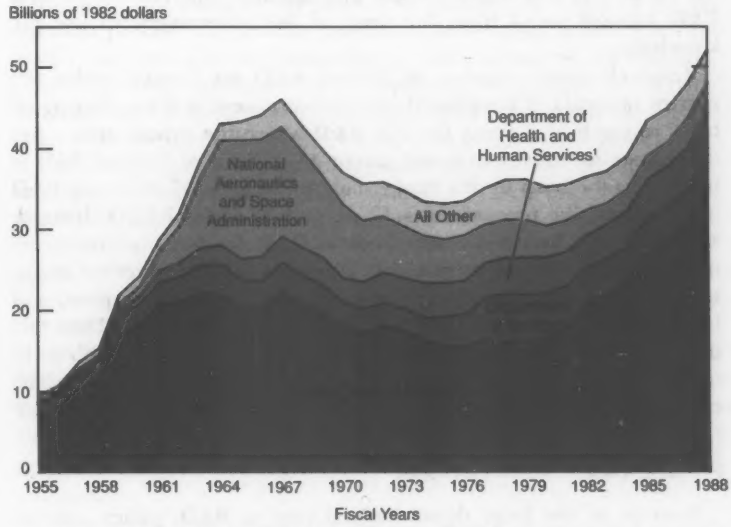
Note.—Private includes a small amount of State and local government funds.
GNP implicit price deflator used to deflate expenditures.
Data for 1988 are estimates.
Source: National Science Foundation.

The level of Federal R&D funding has varied substantially as priorities changed. As shown in Chart 6–4, Federal obligations for R&D in constant dollars declined after 1967 and only recovered their earlier peak in 1987. This slump is attributable primarily to changes in the R&D budgets of the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD), which together accounted for 80 percent of Federal R&D funds in the early 1960s. The rapid growth in Federal R&D began in the late 1950s following the Soviet Union's launch of Sputnik in 1957. High levels of R&D spending supported NASA's successful Apollo program to land a man on the Moon in 1969. While DOD again showed large R&D funding growth during the 1980s as part of this Administration's emphasis on national defense, NASA's R&D funding has not regained its former levels. The Department of Health and Human Services, in contrast, generally showed a slow, steady growth throughout the period. The bulge in R&D funding for the Department of Energy (and its predecessors) during the latter part of the 1970s reflects the ill-advised at-

tempt to seek S&T solutions to the energy crisis and the later efforts of this Administration to cut back expensive demonstration projects.

Chart 6-4

Federal Obligations for Research and Development by Major Agency



[1]Data prior to 1979 are for Department of Health, Education, and Welfare.
[2]Data for 1955-73 and 1974-76 are for Atomic Energy Commission and Energy Research and Development Administration, respectively.
Note.—Data for 1987 and 1988 are estimated.
GNP implicit price deflator used to calculate 1982 dollars.
Source: National Science Foundation.

Although not apparent in agency R&D totals, the recent growth in DOD's R&D has significantly offset the increasing emphasis on basic research in the civilian agencies. Over the past 10 years basic research in the civilian agencies has grown from 23 percent of their R&D to 40 percent. At the same time, however, DOD's share of Federal R&D increased from 45 percent to 67 percent, and DOD spends both a smaller and a declining share of its R&D on basic research. In 1978 basic research accounted for 4 percent of DOD's R&D budget; by 1988 its share had fallen to 2 percent. As a result, Federal spending on basic research remained at 14 percent of total Federal R&D.

Several rationales justify Federal support of R&D. One is that direct government support is appropriate where incomplete property rights lead the private sector to underinvest in R&D; this rationale is

the primary economic reason for Federal support of basic research. Another is that the pure advancement of knowledge—with or without some commercial payoff—is worthwhile (this rationale is perhaps best applied to some forms of space exploration). In other cases, social objectives, such as higher levels of education, are furthered by funding for faculty and student R&D. Still another rationale for Federal R&D support stems from the need of the government to use the knowledge.

Relatively small amounts of Federal R&D are funded under the narrow rationale of insufficient private investment in R&D. Taking all basic research as a proxy for that R&D where the private sector has inadequate incentives to invest, about 14 percent of Federal R&D is funded on the basis of this market-failure rationale. If university R&D is the proxy, the proportion is 12 percent of Federal R&D. Instead, as shown in Chart 6–4, most Federal R&D funds go to meet the needs of the agencies themselves. The agencies were created to respond to specific social needs, in such areas as defense, space, and health, where private actions alone would not be sufficient. They rely on R&D to help them meet their goals or to provide them with technologically advanced products where they are the dominant purchaser. In such a situation, R&D is a means of fulfilling the agencies' roles in society; support of R&D is not an end in itself.

FEDERAL TECHNOLOGY TRANSFER

Because of the large direct Federal role in R&D, policy officials have recently paid particular attention to incentives for the transfer of the results of federally sponsored R&D to industry.

Government Patent Policy

Some results of federally funded research are patentable, and government policy on ownership and use of these patents has recently changed to offer greater incentives for their commercialization. The earlier policy of many agencies was to patent their inventions and to provide nonexclusive licenses to encourage wide use of their research results. Agencies found little demand for nonexclusive licenses.

Legislation in 1980 permitted contractors engaged in federally funded R&D to obtain patent title when they are small businesses, universities, or nonprofit institutions. A 1983 Presidential memorandum extended the contractor title policy to firms of all sizes (unless contrary to law) and removed a previous restriction mandating that a Federal agency should normally retain title to inventions that concern public safety, health, or welfare. Amendments to the patent title legislation in 1984 extended its coverage to university and nonprofit operators of government-owned, contractor-operated research facilities

and in 1986 to some cases of government-owned, government-operated facilities.

A policy of offering contractors exclusive rights to patents arising from government-sponsored R&D is likely to be the most effective way of ensuring that research results will be brought to the point of private commercial use. Indeed, without exclusive rights, private entrepreneurs are likely to shy away. The post-patent stages of the innovation process may involve substantial investment in additional research that may not be patentable or easily protected. In addition, contractors may have used their proprietary information in carrying out R&D for the government, making it difficult or impossible for another firm to exploit the patent without using that information.

The 1980 legislation permitting universities to own patentable inventions flowing from federally funded research appears to have stimulated both invention and university-industry cooperation. The number of university patents increased from 230 in 1976 to approximately 900 in 1987, of which universities are licensing almost one-third to private firms for development and potential commercialization. Universities attribute the significant increase in business-sponsored research on their campuses to this legislation. Some observers also view the growth in the U.S. biotechnology industry as largely a product of the university-industry cooperation made possible by this legislation.

Cooperative Research Involving Industry, Federal Laboratories, and Universities

Policymakers also recognized the importance of incentives as they tried to improve the linkages between researchers in government laboratories and private industry by allowing laboratories to keep a portion of the revenues from license fees. The Technology Innovation Act of 1980 (the Stevenson-Wydler Act) explicitly promotes civilian technological innovation, by making the transfer of federally owned technology to industry and to State and local governments an objective of all Federal laboratories.

The Federal Technology Transfer Act of 1986 amended the Stevenson-Wydler Act to encourage further the transfer of Federal technology to industry. Federal laboratories could perform cooperative research with outside parties, as long as such research was consistent with the mission of the laboratory, and permit private companies to obtain in advance rights to patent technology developed under the cooperative agreements. The act also provided that laboratory directors could negotiate licensing agreements arising out of other, noncooperative research at the laboratory. It enabled an agency to retain any royalties resulting from commercialization of inventions from its laboratories, and it directed the agency to share those royalties with

the individuals responsible for the invention and with its laboratories. Preliminary indications of the effect of these two laws are favorable. Inventions reported by government scientists rose significantly in fiscal 1988 compared with fiscal 1987, and Federal laboratories have entered into almost 100 cooperative research agreements with private companies under the Federal Technology Transfer Act.

The Federal Government has also encouraged new institutional arrangements for cooperative research. These cooperative arrangements have several motivations and objectives, including cost-sharing, reducing the barriers to commercialization of technology developed in universities or government laboratories, making more effective use of the scarce and valuable talent and facilities of government laboratories, and broadening the scope of firms' exposure to external technical advances. As an example of the new institutional arrangements, in 1986 NSF made the first 6 of what has since become a total of 18 awards for Engineering Research Centers located in schools of engineering that also have support from private industry. Based on strong industry and university interest, NSF has developed a similar program for science and technology centers and announced the first 11 awards in December 1988.

Some critics have voiced concerns that cooperative research involving industry and either universities or government laboratories may divert these institutions from their proper social objectives. They fear that university researchers will develop an excessively near-term focus and neglect longer term research, or that government-funded laboratories may be diverted from their primary goals in order to do research on commercially profitable products. But it may also turn out that researchers still do longer term research, although in areas with market potential.

A basic issue raised by concerns over research diversion involves the opportunity cost when researchers cooperate with industry. That is, if researchers are diverted, which type of research has the greater value to society? Some academic research driven purely by the interests of the scientist leads to important breakthroughs. The R&D process does not move in a single direction, however, and basic research is not the only source of ideas. Important feedbacks occur throughout the R&D process; social problems and technological limitations can stimulate major fundamental research. The heart of the issue lies in identifying the effect of cooperative research on the composition and quality of R&D. Two final points are that the sponsoring agency must ensure that government funds are used only to further the objectives of the agency and, for Federal laboratories, that technology transfer is now part of their mission.

A different problem arises from the limitations of relying on researchers alone to become entrepreneurs or product champions. They may not have the skills or interest in turning research results into commercial products. What is needed is industry awareness and anticipation, while the research is being planned, of how the results of longer term, fundamental research could lead to product or process improvements. Cooperative research across sectors can increase this awareness, as industry identifies areas of long-term research in which it will invest.

FEDERAL SUPPORT FOR INDUSTRY

Industry now receives one-half of all Federal R&D funds. The U.S. Government has longstanding relationships with industry in space and defense to meet agency goals. Some observers cite the commercial success of the U.S. aviation industry as justification for Federal support of other industries. But as a counter-example, spillovers from defense research into the civilian sector appear to have fallen off since the 1950s. The underlying question is whether federally funded R&D in industry can both meet government needs and benefit society in other areas as well through its use in commercial products and processes. This question is not easily resolved, and policy officials are still examining existing government-industry relationships and developing new ones to permit broad use of Federal R&D results.

Industrial Base

One troublesome facet of government-industry cooperation becomes evident when foreign competition threatens a U.S. industry that is deemed to be important for national security. This competition may result from unfair trade practices, exchange-rate changes, cost of capital, or superior foreign products or production capabilities. In recent years two examples have arisen of Federal R&D directed at improved manufacturing capabilities for strategically important U.S. industries—machine tools and semiconductors. In both cases foreign competitors undercut the competitive position of U.S. firms, and the industries petitioned the U.S. Government for relief. Both industries directly or indirectly raised national security arguments to support the need for continued domestic production. In both cases the government granted some import relief and supplemented it with support, through DOD, for research to improve the manufacturing capabilities of the industry.

The National Center for Manufacturing Sciences (NCMS), established in 1986, is an R&D consortium focusing on manufacturing technologies of all types. Although U.S. manufacturers of machine tools are involved, membership is much broader, including the users

of manufacturing technologies in the automotive, defense, and consumer products industries and suppliers to the machine tool industry. The NCMS contracts out its research to industry, academia, and government. The NCMS receives about $5 million a year from DOD and plans for $45 million a year from private sources.

SEMATECH (semiconductor manufacturing technology initiative) is a newly established consortium of U.S. semiconductor producers, equipment suppliers, and users. SEMATECH is developing the next generation of process technology for the production of semiconductors, where U.S. firms have lost market share to Japan (especially in DRAMs) and for which efficient production processes are critical for commercial success. SEMATECH is partially supported with Federal funds, with DOD authorized to provide $100 million of support in fiscal 1989.

The existence of NCMS and SEMATECH raises fundamental questions about DOD's role in supporting civilian commercial technologies. The Department clearly needs semiconductors and advanced machine tools and, in special circumstances, may not want to rely on foreign suppliers. But DOD's demand for these products is only a small portion of the total market, and DOD alone does not need and cannot support a large domestic production base. Requiring DOD to provide R&D support for an industrial base larger than it needs, however, diverts its resources from military technologies that the private sector would never fund on its own.

Cooperative Research and Development

Cooperative research among competing firms is an organizational form of research that some argue deserves special Federal support. Many firms benefit from cooperative research on generic projects, the argument states, that individual firms lack incentives to finance themselves. Yet the fact that firms share the costs reduces the need for government support. The argument is most convincing where members of the cooperative cannot readily appropriate research results, so that they lack sufficient incentives to invest. For example, incentives to invest could be inadequate if intellectual property protection is incomplete, if the results cannot be kept secret, and if participants will not gain lead time.

Cooperative R&D is an obvious way for companies to overcome the limitations of R&D budgets. It can eliminate purely duplicative research of individual companies and free up resources for additional research. It can marshal more researchers and equipment to work on a problem. Cooperative R&D can also pursue several possible solutions simultaneously, thereby reducing the risk of finding no feasible solution at all.

Formal modes of cooperation are cumbersome to arrange, difficult to administer, and often only modestly successful. Competitors often bring different R&D capabilities and knowledge to a proposed cooperative R&D effort. If participants pool personnel and knowledge, those with the better staff and equipment are often reluctant to join. The participants' ability to exploit the fruits of cooperative R&D projects often differs, which makes the selection of appropriate projects and the optimal sharing of R&D costs touchy subjects.

Competitors can address these problems in several ways. The Microelectronics and Computer Technology Corporation (MCC), a private R&D cooperative established in 1982 without government subsidy, serves as an example. The corporation performs advanced long-term R&D in microelectronics and computer development; it does not develop products or processes. Members do not pool proprietary research and face no restrictions on their own individual research. The private sector financing and governance provide market checks against MCC becoming irrelevant to industry needs and inefficient in its management.

Members of MCC have adopted a simple rule for assigning R&D costs: initial participants in a program pay an equal share; later participants may pay a larger amount. Because of the difficulty of predicting how beneficial some technology will be to a particular member, participants make an additional payment for a license to use a technology coming out of their program, and they share in the royalties. Participants also receive a 3-year head start in access to technologies before those technologies are opened to other MCC shareholders.

Alternative cooperative approaches involve either formal technology licensing or informal know-how trading after the research is completed. Know-how trading takes place when scientific and technical personnel obtain information from colleagues at other firms, possibly competitors, and provide other information in turn, possibly at a different time. The technical participants judge the quality of information given and received and, over time, ensure that exchanges are of comparable value. This phenomenon partially explains the rapid leakage of technology out of innovating firms, and also explains the incentives for firms to fund R&D despite the leakage—they get know-how in return.

Given the many ways in which industry generates and shares knowledge without government support, proposals for Federal support of cooperative industry research should identify the circumstances that make purely private solutions infeasible and the extent to which the social benefits of government support exceed the public costs. Government funding certainly makes a consortium more attrac-

tive to industrial participants if the money comes with few strings attached. However, government funding raises such issues as which firms are eligible for membership in the consortium, under what conditions nonmembers can obtain access to the R&D results, when foreign members are eligible for membership, and how scarce government resources should be allocated among various consortia.

Perhaps a more useful and appropriate government role than funding would be to gather information on successful organizational and contractual solutions to the typical problems in cooperative industry R&D. And, where industrial R&D consortia operate in areas where the Federal Government supports R&D, these consortia should be eligible to compete for R&D support on equal terms with other research institutions.

POTENTIAL POLICY PROBLEMS

Some emerging issues pose potential problems for the continued success of the American S&T enterprise; among them are the politicization of the allocation of Federal R&D funds, the degree to which the country benefits from government R&D spending, and the adequacy of the supply of scientists and engineers to meet the needs of the U.S. economy.

Political Pressures in Research Funding

Decisions on R&D funding are increasingly subject to political pressures. These pressures are brought to bear by industries that do not receive Federal R&D funds at the level or in the form they want, by research organizations that do not obtain their "share" or do not receive funds for the specific purposes they want (e.g., facilities), and by regions that want the resources associated with Federal R&D.

The location in which R&D is carried out is not a new concern for science policymakers. For example, the geographic distribution of National Science Foundation grants was an issue in the Congress before the organization was established. However, Federal research funds are increasingly earmarked for particular institutions in the budget and appropriations process, rather than allocated by agency decisions. One estimate showed that earmarked science projects had increased from 19 in the 1979–80 sessions of the Congress to 121 in the 1985–86 sessions, with recipient institutions rising from 12 to 60.

Such political intervention is not surprising; locations in which research is conducted gain from Federal funds regardless of any potential commercial benefits that may result from the research. Earmarking appears to benefit institutions that have difficulty obtaining Federal funds. One study found that the top 20 universities (in terms of Federal R&D support), which got 41 percent of total research funds, received only 1.3 percent of earmarked funds in 1986. Universities

ranked below the top 100 received 14 percent of the total R&D funds but 71 percent of earmarked funds, suggesting that research institutions lobby for earmarked Federal research funds that they could not obtain otherwise.

The potential problem is that political earmarking will waste R&D resources. Once the evaluation criteria have been established, researchers should compete on merit—not their lobbying skills.

Access to U.S. Science and Technology

Concerns for both national security and economic competitiveness have generated interest in setting appropriate conditions for foreign access to American S&T. On the competitiveness side, the primary consideration is to ensure that the Nation benefits from its R&D investments, particularly those publicly funded.

Both this Administration and the Congress have sought to balance international S&T relationships through measures that ensure comparable access to government-sponsored or government-supported R&D programs and facilities. All nations should eliminate R&D arrangements that discriminate against researchers based only on their nationality. Comparable access across all countries will not suffice to ensure that research opportunities afforded by such access will be used, however. The degree of use of foreign research opportunities depends on individual perceptions of research-facility quality, the existence of language barriers, the costs of carrying out research abroad, and the individual researcher's expertise. Several U.S. Government agencies are taking steps to increase American use of worthwhile foreign research opportunities. These agencies plan to monitor and provide information on research opportunities abroad, fund more international research, and provide scientists with foreign language training. These measures will benefit the United States as American researchers take greater advantage of the increasingly strong S&T capabilities of other nations. As in trade, solutions to a perceived lack of reciprocity or imbalance should end up helping instead of harming the United States.

Policies to ensure that the United States benefits from its government-supported R&D investments have to take into account the openness of much of the U.S. research system. Academic research is traditionally published, and draft material circulates in informal research networks. Cooperation among nationals of different countries—formal or informal, in U.S. laboratories or abroad—can improve the productivity and quality of the research. Such cooperation benefits all participants. At times, however, participants may be able to appropriate the research results, e.g., through patents, and put them into commercial use. The U.S. Government now includes intel-

lectual property protection provisions in its international S&T agreements to guard against this eventuality.

Strong domestic research cannot ensure that the United States will remain the location of production for goods derived from that research. Once the country has made an R&D investment, it is in society's interest to allow that knowledge to be incorporated into products, wherever they are produced. The best way to ensure that U.S. firms and the American public benefit from this R&D is to give firms a policy environment conducive to innovation.

New Scientists and Engineers

Recent demographic trends have raised doubts about the adequacy of the future U.S. science and engineering work force. The size of the 16- to 18-year-old population of the United States peaked in the mid-1970s, and it is expected to continue to decline until the mid-1990s. Each successive college-age cohort contains a larger proportion of ethnic and racial minorities, which historically have been poorly represented in science and engineering. By the year 2000, more than 25 percent of the college-age population will be black or Hispanic. The math and science performance of U.S. students at the precollege level is relatively poor, whether that performance is measured against other countries or within the United States over time; this showing is a matter of concern. These trends taken together could impose restraints on the supply of newly trained scientists and engineers unless educational and employment patterns change.

The downturn predicted for the number of bachelor degrees in science and engineering based on past participation rates has not yet come about. The United States is already halfway through its demographic decline in the college-age population, and the number of college graduates with first degrees in the natural sciences and engineering (excluding social and behavioral sciences) has continued to increase. Much of this continued production of bachelor degrees in science and engineering is attributable to the increased participation of females and increased enrollments in computer sciences.

Foreign students play a large role in U.S. graduate education, although at the undergraduate level they account for less than 4 percent of the degrees in science and engineering. In 1987, foreign students received 30 percent of U.S. doctorate degrees in science and engineering, up from 21 percent in 1978. Within engineering, foreign students received the majority of U.S. doctorates in 1981, and by 1987 their share reached 55 percent. Two-thirds of these foreign engineering students are from Asia. Students from Taiwan, South Korea, and India accounted for 44 percent of the foreign engineering doctorates in 1987, illustrating the importance of American institutions in training scientists and engineers from developing countries.

The U.S. higher education system has become a major producer of international human capital.

Ability to meet the longer term needs of the U.S. economy for scientists and engineers will depend on the basic factors that affect their supply. One factor is pay for scientists and engineers at different degree levels and compared with job opportunities in nonscience fields. Another factor is the flow of undergraduates, which depends on a supply of qualified high school graduates. Longer term enlargement of the base of potential scientists and engineers also depends on the recruitment of women and minorities into these fields.

CONCLUSION

Because the 1980s have seen strengthened incentives for the private sector to put the results of R&D into commercial use, major changes in the role of the Federal Government do not appear to be needed. Nonetheless, the United States needs to improve its understanding of the factors—institutional relationships as well as incentives—that determine how effectively the S&T system works. The Nation needs to ensure that efforts to benefit particular groups do not hinder the efficient deployment of S&T resources. In this way, the United States can continue to stimulate its scientific and technological genius, which for so long has benefited both the Nation and the world.

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CHAPTER 7

The U.S. Economy in the 1980s and Beyond

WHEN THE PRESIDENT TOOK OFFICE in January 1981, the condition of the U.S. economy was bleak. Sixteen years of inappropriate monetary and fiscal policies and two oil price shocks had left the economy in the grips of stagflation. Inflation and unemployment rates had followed rising trends between 1965 and 1981. For example, at the expansion peak in the fourth quarter of 1969, the unemployment rate was 3.5 percent and the inflation rate was 5.1 percent. By the third quarter of 1981, another expansion peak, the unemployment rate had climbed to 9.2 percent and the inflation rate had risen to 9.4 percent. At the same time, the trends in real output and productivity growth had faltered. Between the expansion peaks of the second quarter of 1953 and the fourth quarter of 1969, real gross national product (GNP) and manufacturing productivity growth averaged 3.2 percent and 2.3 percent per year, respectively. Between the fourth quarter of 1969 and the third quarter of 1981, GNP and manufacturing productivity growth averaged 2.6 percent and 2.2 percent per year, respectively, while between the fourth quarter of 1973 and the third quarter of 1981, GNP and manufacturing productivity growth averaged only 2.2 percent and 1.5 percent, respectively.

As the President leaves office in January 1989, the economy is in its seventh year of expansion. This is the longest peacetime expansion in recorded U.S. history and one marked with notable achievements. Real output has grown 4.2 percent per year on average between the fourth quarter of 1982, and the third quarter of 1988. Nonfarm employment has increased by almost 19 million jobs through November 1988. The inflation rate has fallen from double digits and has averaged about 3.3 percent in the past 5 years. Manufacturing productivity has increased at an average annual rate of 4.4 percent, almost three times as fast as its average growth between the fourth quarter of 1973 and the third quarter of 1981.

Economic performance in 1988 surpassed the expectations of many forecasters, who first expected the October 1987 stock market crash and an apparently large inventory overhang to dampen growth, and who later predicted rising inflation. Real output grew an average 2.9

percent during the first three quarters of the year, inflation was only 3.9 percent, and the unemployment rate fell to 5.3 percent, among the lowest in 14 years. Moreover, the composition of real output moved into better balance, with business fixed investment and exports both posting impressive gains.

The prosperity of the past 6 years is in no small measure attributable to the economic policies fostered and implemented by this Administration. Tax reform has improved the incentives to produce, save, and invest. Slower growth of Federal spending has freed resources for the private economy. Prudent monetary policy has lowered and stabilized the rate of inflation. As long as policymakers maintain open and flexible markets, enhance economic stability by avoiding short-run stabilization policies and higher tax and inflation rates, rein in Federal spending, and avoid protectionism, the economy can continue to demonstrate good economic performance in the years ahead. With this proviso, the economic outlook for the United States is bright.

THE LOWERING OF INFLATION IN 1981 AND 1982

A cornerstone of this Administration's economic policy has been a reduction in the rate of inflation. Given the poor economic performance of the 1970s, the Administration believed that strong and durable gains in living standards could not be achieved unless inflation was stable, and ultimately zero. The Administration encouraged and supported Federal Reserve efforts to reduce the growth of money in order to achieve a lower inflation rate. This policy support built public credibility in the Federal Reserve's disinflation policy.

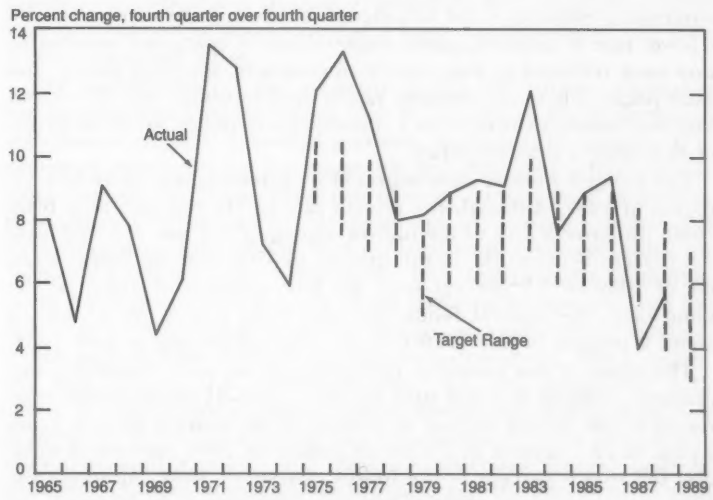
Monetary policy actions between 1965 and 1980 had shattered the Federal Reserve's credibility as an inflation fighter. On average, the money supply grew more rapidly than the rate consistent with low inflation. For example, M2 grew at an annual average rate of nearly 9 percent between 1965 and 1980. Given that the velocity of M2, which is defined as the ratio of nominal GNP to M2, has exhibited no secular trend during the postwar period, inflation would not have surged during the late 1960s and the 1970s if M2 growth had stayed closer to the 3 percent trend growth of real GNP. Compounding the inflationary effects of fast money growth during the second half of the 1970s was an increase in the average growth rate of the velocity of M2 as nominal interest rates rose in response to continued inflation. Thus, a given money growth rate was translated into even faster inflation.

Not only was average money growth excessive between 1965 and 1980, but it was also highly variable (Chart 7–1). Large changes in

money growth whipsawed the economy alternately into boom and bust periods. During 1967, 1971, and 1975, the growth rate of M2 approximately doubled from the previous year, while during 1966, 1969, 1973, and 1976–78, M2 growth reversed course, falling by about one-third to one-half of its previous value.

Chart 7-1

Actual and Target M2 Growth



Note.—Target ranges set for 1975 to 1989 only.
Source: Board of Governors of the Federal Reserve System.

Excessive and highly variable money growth clouded the public's understanding of the intentions of the Federal Reserve. Since 1975 the Federal Reserve has announced annual growth targets for most of the monetary aggregates. The Federal Reserve designs the target ranges to be consistent with its ultimate policy objectives of achieving price stability in an environment of sustainable real output growth. In recent years the Federal Reserve has also announced its expectations of real output growth, inflation, and the unemployment rate for the coming or current year. These growth targets and expectations of economic activity, along with policy announcements of foreign governments, set the pattern of expectations affecting, for example, interest rates, exchange rates, and other prices. During the second half of the 1970s the Federal Reserve's policy objectives were to moder-

ate real output growth and reduce the rate of inflation, as evidenced by a gradual lowering of the target ranges during this period. Yet the Federal Reserve consistently allowed the monetary aggregates to increase faster than their maximum targeted growth rates. As the rate of inflation steadily rose in the late 1970s the credibility of the Federal Reserve's announced disinflation policy was severely eroded.

This loss of credibility was potentially important. Because the public did not believe that the Federal Reserve was serious about controlling inflation, it did not alter its behavior to be consistent with a lower rate of inflation; public expectations of continued rapid inflation were reflected in wage and loan contracts, spending habits, and asset prices. These expectations raised the probability that the output loss and unemployment from a disinflationary policy would be greater than from a credible policy.

The Federal Reserve demonstrated its determination to reduce inflation in 1981. Although the growth rate of M2 changed little from 1980, the growth rate of the narrow aggregate M1 was reduced from 7.5 percent between the fourth quarter of 1979 and the fourth quarter of 1980 to 5.2 percent over the four quarters of 1981. At the same time, the Federal funds rate rose from a then recent low of about 9 percent in July 1980 to more than 19 percent in June 1981.

The effect of this monetary tightening on the rate of inflation was dramatic, coming as it did after the brief 1980–81 recovery and reinforced by the largest decline in velocity of the postwar period. From a peak of 12.1 percent in the fourth quarter of 1980, the rate of inflation fell to 3.6 percent in the fourth quarter of 1982. Although the 1981–82 recession is often called the most severe in 50 years, its effect on the real economy was less than that of the 1973–75 recession. Real GNP fell 3.2 percent between the expansion peak in the third quarter of 1981 and the recession trough in the fourth quarter of 1982, compared with a total decline of 4.3 percent during the 1973–75 recession; the unemployment rate rose 3.2 percentage points over the same period, slightly less than its 3.4 percentage points rise during the 1973–75 recession. The output and employment losses during the 1981–82 recession were the price paid for the failure to correct the inflationary excesses of the previous 15 years, and are properly viewed as the downpayment for the current expansion.

THE EXPANSION IN PERSPECTIVE

An important legacy of this Administration is the refocusing of economic policy. The Administration deemphasized short-run stabilization policies; worked to provide a stable policy environment with

market-based incentives for productive behavior, including low inflation; and attempted to extricate private markets from burdensome regulations. The strength and durability of the current expansion bear testimony to the soundness of these policies. In December 1988 the current economic expansion entered its seventh year, making it the longest peacetime expansion and the third longest on record. Most impressively, the inflation rate has not risen during this expansion, but has remained in the neighborhood of 3 to 4 percent. Indeed, this President is the first President in 36 years to leave office with both a lower inflation rate and a lower unemployment rate than when he assumed office.

The performance of the economy during the current expansion can be evaluated in several ways. One is to compare the performance with that of major U.S. trading partners. Another is to compare U.S. economic activity during this expansion with economic activity in previous expansions. Apart from the obvious advantage of indicating how domestic economic activity compares with activity abroad, the international comparison can hold constant many common factors influencing economic activity worldwide. The disadvantages of international comparisons are the lack of an historical perspective and the failure to hold constant expansion timings and institutional arrangements such as labor market practices across countries. The comparison with previous U.S. expansions offers this time perspective, indicating to what extent economic activity during the current expansion is better or worse than during past expansions. But this comparison does not hold constant the various exogenous forces, such as droughts, changes in foreign oil supplies, and the impact of foreign government policies, on the U.S. economy. Neither comparison is superior to the other; each has its own strengths and weaknesses. For this reason, both comparisons are employed below.

GROWTH IN REAL OUTPUT

The growth of real output during this expansion compares favorably with growth abroad. Between 1982 and 1987 real output growth in the United States was greater than the average output growth of the other six economic summit countries—France, West Germany, Italy, the United Kingdom, Japan, and Canada—and greater than the average growth of every summit country except Japan and Canada. In contrast, U.S. output growth in the 1960s and 1970s was below the average of the other six summit countries and well below that of Japan, France, Italy, and Canada.

The good performance of the U.S. economy during this expansion is not simply a matter of an early start at recovery. The better U.S. performance also appears during the 1981–87 and 1983–87 time pe-

riods. Instead, the above-average performance of the U.S. economy during this expansion reflects the vigor of the free-market system and economic policies aimed at promoting long-run growth and stable prices. Indeed, as it has become clear that this Administration's policies are paying off, other countries have rushed to adopt similar policies. For example, tax reform is underway in Japan, West Germany, the United Kingdom, and several other countries as well. Government has reduced intervention in the marketplace in France, West Germany, and the United Kingdom through privatization of major publicly owned firms and steps toward deregulation of key markets.

The growth of real GNP in the United States between the fourth quarter of 1982 and the third quarter of 1988 totaled almost 27 percent, greater than real GNP growth in all but one postwar U.S. expansion. This solid growth reflects the long duration of the current expansion, which sets the current expansion apart from almost all U.S. expansions. Average real GNP growth during the current expansion is remarkably similar to that of the past five expansions, excluding the brief 1980–81 episode (Table 7–1). Real GNP has grown an average of 4.2 percent per year between the fourth quarter of 1982 and the third quarter of 1988, virtually matching the 4.3 percent average of the previous expansions. The growth of other aggregate measures during this expansion is similar to the expansion average. Real final sales have grown 3.7 percent per year compared with the average of 3.9 percent, and total employment has grown slightly faster than the average. Real personal consumption expenditures have grown close to the expansion average of 4.1 percent, dispelling the notion that the current expansion has been entirely consumer-led.

SAVING AND INVESTMENT

Although similar in aggregate terms, output and spending during the current expansion differ in composition from the average of past expansions. These differences are best described by examining the balance between saving and investment, which is the reverse side, although not the mirror image, of output and spending behavior. The national income and product accounts identity between income and output can be rewritten as an identity between gross saving and investment. Gross saving is the sum of personal, business, and governmental saving, and gross investment is the sum of gross private domestic investment and net foreign investment.

One difference between the current and past expansions is the behavior of the Federal Government budget deficit. Between calendar years 1980 and 1983, the Federal budget deficit rose from 2.2 percent to 5.2 percent of GNP on a national income and product ac-

TABLE 7–1.—*Comparison of Current and Past Expansions*

[Average annual percent change, except as noted]

Item	Total expansion		First 2 years		Second 2 years		Third 2 years	
	Current[1]	Average	Current	Average	Current	Average	Current[1]	Average
REAL GNP	4.2	4.3	5.8	4.8	2.8	3.9	4.1	3.3
Final sales	3.7	3.9	4.2	4.1	3.5	3.6	3.4	3.6
Personal consumption expenditures	4.0	4.1	4.8	4.9	4.4	3.0	2.7	2.7
Nonresidential fixed investment	6.1	6.7	12.3	5.9	−1.9	9.2	5.8	5.2
Structures	−1.6	4.2	3.1	2.3	−8.3	6.3	.9	10.0
Producers' durable equipment	9.9	8.7	17.9	8.8	1.0	11.1	11.8	3.1
Residential fixed investment	9.2	5.8	21.0	13.0	8.5	−2.2	−2.3	−12.0
Exports of goods and services	7.7	9.1	5.9	6.6	1.5	11.5	17.5	13.3
Imports of goods and services	11.5	7.8	20.6	9.5	6.1	4.8	8.1	8.4
Government purchases of goods and services	2.8	1.3	2.5	.7	5.7	1.8	−.1	6.0
Federal	1.8	−.9	1.9	−1.6	6.4	−.5	−3.5	7.8
Defense	4.3	−1.7	5.8	−3.2	6.0	−1.3	.7	10.2
Nondefense	−5.5	2.6	−7.6	6.1	7.8	.7	−16.5	.7
Excluding CCC	2.2	2.6	4.1	6.0	−2.5	.4	5.5	1.2
State and local	3.6	3.8	2.9	3.5	5.1	4.1	2.5	4.2
Final sales to domestic purchasers	4.2	3.8	5.8	4.4	4.1	3.1	2.6	3.0
Change in net exports of goods and services (billions of 1982 dollars)	−105.6	1.7	−106.5	−15.6	−47.6	17.4	48.5	17.9
ADDENDA:								
GNP implicit price deflator	3.3	4.4	3.5	3.8	2.9	5.4	3.5	5.9
Employment including resident Armed Forces	2.6	2.5	3.3	2.4	2.1	2.7	2.4	2.0
Industrial production	5.7	7.2	10.4	8.7	1.4	5.6	5.5	3.7
Manufacturing output per hour	4.4	3.0	5.7	4.3	3.6	2.6	3.7	.2
Real compensation per hour, nonfarm business sector	.6	2.3	.1	3.1	1.9	1.2	−.2	−.7

[1] Through 1988 III.

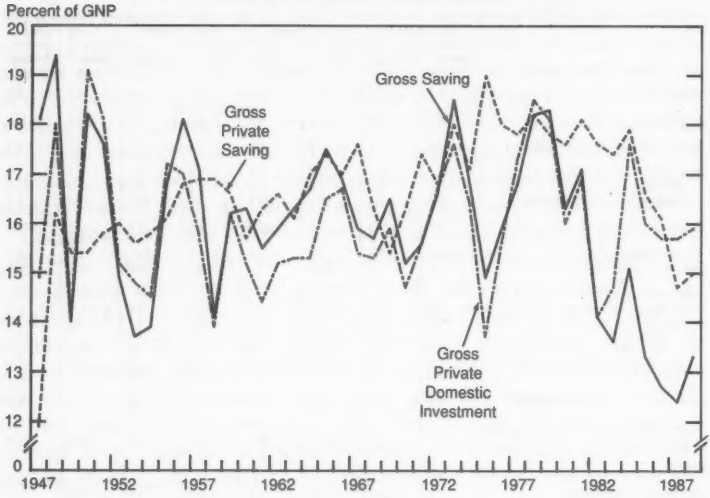
Note.—Average expansion includes expansions beginning in 1954 II, 1958 II, 1961 I, 1970 IV, and 1975 I. (Expansions are as determined by National Bureau of Economic Research.)

Sources: Department of Commerce, Department of Labor, and Board of Governors of the Federal Reserve System.

counts basis. This increase had cyclical and structural components. The cyclical components included greater income-support payments and lower income tax receipts during the 1981–82 recession. The structural components were the buildup in national defense spending and tax changes in the Economic Recovery Tax Act of 1981 (ERTA) and the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). For example, real national defense purchases rose at an annual average rate of 8.2 percent between the fourth quarter of 1980 and the fourth quarter of 1982, the strongest growth since the Vietnam war buildup, and at an annual average rate of 5.9 percent during the first 4 years of the current expansion. On balance, expenditures increased as a percent of GNP and receipts as a percent of GNP remained roughly constant. The increase in the Federal budget deficit accounted for most of the decline in the gross saving rate during this period. This increase is shown in Chart 7–2 by the difference between gross saving and gross private saving.

Chart 7-2

Gross Saving and Investment as Percent of GNP



Note.— Data for 1988 based on average of the first three quarters.
Source: Department of Commerce.

Between calendar years 1984 and 1987, the Federal budget deficit averaged 4.4 percent of GNP, but a combination of strong income growth and spending restraint has reduced the deficit to 2.8 percent of GNP during the first three quarters of 1988. Total expenditures as a percent of GNP have fallen from 23.7 percent in 1984 to 23.0 percent through the first three quarters of 1988, while total receipts as a percent of GNP have increased from 19.2 percent to 20.1 percent of GNP over the same period. The fiscal 1990 budget proposal indicates a continued decline in the Federal budget deficit to reach a balance by fiscal 1993.

A second difference in the composition of real output during this expansion, relative to past expansions, is the decline in the U.S. trade balance. This decline reflected faster real income growth and a greater expected real, after-tax return on capital in the United States relative to the rest of the world. The rise in the real value of the U.S. dollar in foreign exchange markets reinforced these factors. Real net exports fell $154.1 billion between the fourth quarter of 1982 and the fourth quarter of 1986, compared with the average $1.8-billion

increase during the first 4 years of the past five expansions, excluding the brief 1980–81 episode. During the first 4 years of the current expansion, real import growth was almost double and real export growth was less than one-half of the average of past expansions. The deterioration in the trade balance is mirrored by the decline in U.S. net foreign investment during this period, shown in Chart 7–2 by the difference between gross saving and gross private domestic investment. Between 1982 and 1986 net foreign investment fell from about zero to −3.4 percent of GNP. This capital inflow more than offset the decline in the gross saving rate after 1982.

The swing in the trade balance is also reflected in the greater growth in domestic demand relative to that of domestic output during this period. Growth in real gross domestic purchases averaged 5.3 percent per year during the first 4 years, a full percentage point faster than the growth in real GNP.

Since the fourth quarter of 1986 the decline in the real U.S. dollar exchange rate and the convergence of real income growth in the United States and abroad contributed to the $48.5-billion improvement in real net exports, as strong export growth more than offset continued import growth. Additional improvement in the trade balance can be expected in the future.

A final difference in the composition of real output during this expansion involves stronger growth of gross private domestic investment relative to past expansions. Real gross private domestic investment grew at an average annual rate of 10.5 percent during the current expansion, more than a full percentage point faster than the average of past expansions.

Among the components of gross private domestic investment, real residential fixed investment has grown during the current expansion at a 9.2 percent average annual rate, considerably above the expansion average of 5.8 percent. The stronger growth reflects the early effects of ERTA and TEFRA, which lowered the cost of capital for multifamily housing construction as well as for nonresidential structures. Real nonresidential fixed investment has grown about one-half of a percentage point less during this expansion than the 6.7 percent average annual growth during past expansions, but the difference appears in nonresidential structures. The annual average 1.6 percent decline in structures mostly reflects lower spending on petroleum exploration and drilling in response to the oil price decline in 1986, although recent weakness in nonresidential structures spending reflects the removal of incentives for investment in structures in the Tax Reform Act of 1986. Real producers' durable equipment expenditures have grown over a full percentage point faster than the expansion average. A number of studies suggests that this strength is

not attributable to the effect of ERTA tax incentives on the cost of equipment capital; TEFRA removed most of these incentives. Instead, much of the strength in equipment spending can be attributed to a lower rate of inflation, which lowered the effective tax rate and raised the expected after-tax return on equipment. Moreover, falling computer prices, the necessity of modernizing to remain competitive in world markets, and the effects of rising aggregate demand for U.S. manufactured goods in the past 2 years have also contributed to stronger equipment spending.

Considerable public attention has been devoted to the effect of Federal Government budget deficits on private investment. A popular view is that large Federal budget deficits during this expansion have absorbed a substantial share of gross private saving, thereby raising real interest rates and crowding out or displacing private investment. This view fails to account for foreign capital inflows. Gross saving minus net foreign investment equals total saving of the public, private, and foreign sectors in the United States. It also equals, apart from a statistical discrepancy, gross private domestic investment. When these foreign capital inflows are included, nominal gross private domestic investment as a percent of nominal GNP has been average during this expansion, judged by historical experience, while real gross private domestic investment as a percent of real GNP is greater than its postwar average. This evidence suggests that concerns about high real interest rates and large Federal budget deficits crowding out residential and nonresidential investment, thus far in this expansion, appear to have been misplaced. Of course, the relevant comparison would use what would have happened had the Federal budget deficit not been as large, a subject of some dispute, but it is clear that gross private domestic investment did not deviate from historical norms.

This strong growth in gross nonresidential fixed investment ignores the fact that a growing share of investment during the past 22 years has simply replaced worn-out capital, and has not added on net to the national capital stock. The share of gross nonresidential fixed investment in real GNP has risen from 11.3 percent in 1966 to more than 12.2 percent during the first three quarters of 1988. But net nonresidential fixed investment, which represents new additions to the Nation's capital stock after replacing worn-out capital, has fallen from 4.8 percent of real GNP to 2.0 percent in 1987. The reasons for the divergence between gross and net nonresidential fixed investment are not entirely clear. As discussed in Chapter 1, the decline in the growth of net investment is likely to have been overstated.

The United States continues to create employment opportunities at an enviable pace. Total employment has grown at an average rate of 2.6 percent per year between November 1982 and November 1988, slightly faster than the expansion average. Nonfarm payroll employment has grown by nearly 19 million jobs, or a 3.2 percent average annual rate, matching its expansion average. Within nonfarm payrolls, goods-producing employment has grown an average 1.9 percent per year during this expansion, almost a full percentage point slower than the expansion average. Service-producing employment has grown 3.7 percent, slightly stronger than the expansion average. The differential between goods- and services-producing employment reflects the better productivity of the goods-producing sector and the long-term shift toward services consumption.

Strong economic growth during this expansion has improved employment opportunities for all major demographic groups. Between November 1982 and November 1988 civilian employment of adult males has grown at an average annual rate of 2.2 percent, adult females at 3.4 percent, blacks at 4.4 percent, and Hispanics at 6.6 percent. Employment growth has been exceptionally strong for black teenagers—6.8 percent at an average annual rate. This gain is almost three times that in black teenage employment during the 1975–80 expansion.

The impressive employment growth during this expansion is reflected in unemployment rates. Since the expansion began, the unemployment rate has been cut by one-half, from 10.6 percent to 5.3 percent in November 1988. During 1988 the unemployment rate fell to its lowest level in 14 years. Moreover, the employment-to-population ratio reached an all-time high of 62.9 percent in 1988. Unemployment rates have declined substantially for all major industrial and occupational categories and for all major demographic groups. Unemployment rates of women, which averaged more than 25 percent higher than for men during the 1970s and early 1980s, dropped below men's rates in early 1982. Since November 1982 unemployment rates for women have fallen by 4.9 percentage points and have been roughly equal to unemployment rates for men since 1981. Black and Hispanic unemployment rates have both shown large declines, and, although still high, current unemployment rates for these groups are the lowest recorded since 1974.

Strong growth of employment in the United States surpasses that of major U.S. trading partners. Employment has grown considerably faster in the United States than in the other six summit countries. Between 1982 and 1987 civilian employment in the United States has grown at an average 2.5 percent annual rate, faster than in any other

summit country. Canada had the second fastest growth at 2.4 percent, Japan and the United Kingdom were tied at about 1.0 percent growth, and the rest were under one-half of 1 percent. Indeed, more than twice as many jobs have been created in the United States since 1982 as in the other six summit countries combined. Faster employment growth in the United States was also evident in the 1981–87 and the 1983–87 periods.

The reduction in the U.S. unemployment rate has been particularly impressive when compared with that of other industrial countries. Since 1982 the U.S. unemployment rate has declined substantially, while unemployment rates in Western Europe, for example, are among the highest of the postwar period. The U.S. unemployment rate is now lower than that of any of the other summit countries except Japan, a country with different labor market practices. In contrast, the U.S. unemployment rate was generally above unemployment rates in Western Europe between 1960 and 1980.

The distribution of economic growth among regions of the United States can vary with relative price changes and regional cost competitiveness and economic bases. Early in this expansion, the industrial Midwest continued to suffer employment problems related to ongoing structural change. The energy-producing region, primarily the Southwest, suffered when oil prices fell in 1986, while employment growth was strong along both coasts. Currently, most regions of the country, except oil-producing regions, have experienced good job growth. Between September 1982 and September 1988 employment has grown by more than 5 percent in 43 States, and by more than 10 percent in 39 of those States. In 1987, employment was above its average 1982 level in 46 States and above its average 1979 level in 44 States.

Much has been made about the United States turning into a Nation of low-wage, low-skilled workers. Although it is difficult to test this hypothesis directly, evidence suggests that this notion is incorrect. Employment growth in the current expansion has been strongest in the higher paid, higher skilled occupations. Two-thirds of the increase in employment has occurred in the higher paying occupations. More than 85 percent of the increase in full-time employment has occurred in occupations with annual salaries of $20,000 or more in 1987 dollars. Only 12 percent of the increase in employment has occurred in the lowest paid, low-skilled service occupations. Of the new jobs created during this expansion, 92 percent are full-time jobs. Further, 80 percent of part-time workers report that they choose to work part time.

Economic growth has improved employment opportunities for all groups, especially women. Since 1980 the percentage of women em-

ployed in traditionally high-paying, male-dominated occupations has increased dramatically. For example, women now hold 46 percent of all jobs for accountants and auditors, up from 38 percent; 20 percent of all jobs for lawyers, up from 14 percent; 20 percent of all jobs for physicians, up from 13 percent; and 13 percent of all jobs for architects, up from 8 percent. Earnings of women have also grown strongly. Weekly earnings of female workers have grown 27 percent, while male earnings have grown 19 percent. Thus, the gap between female and male earnings has narrowed. Moreover, real earnings of women, which stagnated in the 1970s and early 1980s, have increased 7 percent since 1982.

Blacks and Hispanics have also made gains in job quality, although their employment in the higher paid occupations is still relatively low. While overall employment in the higher paid white-collar occupations has increased by 17 percent during this expansion, employment of blacks in these occupations has increased by 36 percent and of Hispanics by 60 percent.

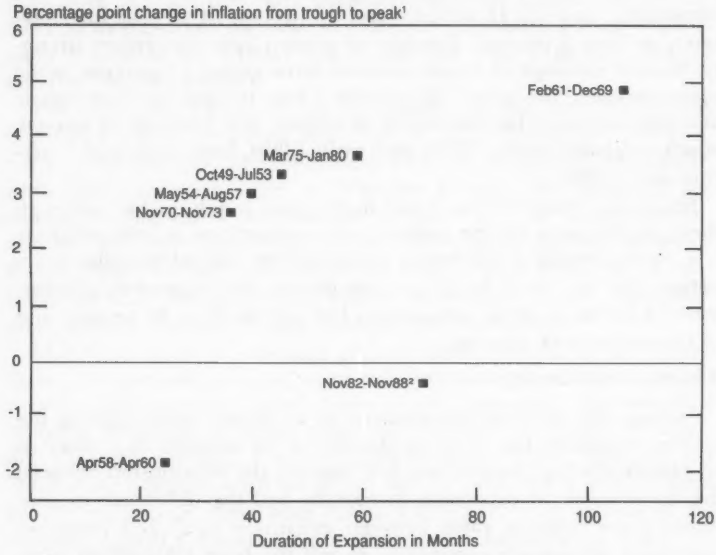
INFLATION AND PRODUCTIVITY GROWTH

Perhaps the greatest achievement of economic policy during the current expansion has been the stability of the inflation rate, albeit at an historically high rate. Chart 7–3 displays the relationship between the duration of an expansion in months and the difference in consumer price inflation rates between expansion peak and recession trough for all postwar expansions except the brief 1980–81 episode. Prior to the current expansion, the longer an expansion lasted, the greater was the increase in the inflation rate. In contrast, the current expansion has witnessed a slight decline in the rate of inflation, instead of an increase comparable to the 3.6 and 4.8 percentage point increases experienced during the third and first longest expansions of the postwar period. The stability of the inflation rate during the current expansion is not attributable to weaker economic performance compared with the other expansions. Real output in the current expansion has grown about the same as the average 4.3 percent growth of the five previous expansions, excluding the brief 1980–81 episode.

The GNP implicit deflator has grown at an annual average rate of only 3.3 percent during this expansion, more than a full percentage point less than the average of past expansions, and more than 4 percentage points less than during the 1975–80 expansion. The GNP fixed-weight price index increased at an average annual rate of 3.6 percent during this expansion, slightly faster than that of the GNP implicit deflator. The difference between the growth rates of the implicit deflator and the fixed-weight price index indicates a shift in the

Chart 7-3

Expansion Duration and Inflation Change



[1] Inflation is measured by the 12-month percent change in the consumer price index for urban consumers.
[2] November 1988 is the latest month in the expansion for which data are available.
Sources: Department of Labor and National Bureau of Economic Research.

composition of output away from that of the 1982 base year. Because spending tends to shift toward lower priced goods and substitutes for existing goods over time, the implicit deflator usually grows less rapidly than the fixed-weight index. In the current expansion, a major shift in output has involved increased purchases of computers, whose price index is falling because of strong technical innovation in that industry.

The inflation record of the United States during this expansion also compares favorably with those of the major U.S. trading partners. The average rate of consumer price inflation in the United States during this expansion is lower than the average among the other six summit countries, and lower than the average rate of inflation in France, Italy, the United Kingdom, and Canada. Consumer price inflation in the United States has averaged 3.3 percent per year between 1982 and 1987, while the average of the other summit countries was 4.5 percent. The relatively better inflation performance of

the United States also appears in the 1981–87 and 1983–87 time periods.

The stability of the inflation rate compared with the experience of previous expansions ultimately is attributable to the prudent economic policies pursued during the current expansion. In the long run, the price level cannot rise continuously unless accommodated by monetary policy. In the short run, however, changes in the velocity of money can complicate control of the price level. A decline in velocity during 1982 aided the disinflation efforts of the Federal Reserve, and additional declines in 1985 and 1986 restrained the rate of inflation. These unusual declines in velocity during the 1980s are not completely understood. Such factors as the introduction of nationwide negotiable order of withdrawal (NOW) accounts, the removal of interest rate ceilings, and lower nominal interest rates, may have played a role, but the best research in this area has not disentangled their effects.

The surge in manufacturing productivity growth demonstrates the benefits of lower inflation, market-based tax incentives, and more rigorous foreign competition. Manufacturing productivity has grown at an average rate of 4.4 percent, almost one and one-half times faster than the expansion average. After growing at an annual average rate of 5.7 percent in the first 2 years, manufacturing productivity has maintained a steady 3.6 percent annual average growth in the past 4 years.

Current estimates of the Nation's manufacturing productivity growth during this expansion have matched those of its major trading partners. After taking into account faster growth in foreign labor compensation, however, unit labor costs have grown considerably slower in the United States than among its major trading partners. Combined with the weaker U.S. dollar in foreign exchange markets, this better unit labor cost performance means that the competitive position of U.S. manufacturers has improved significantly during the past 3 years.

Productivity growth in the nonfarm, nonmanufacturing sector has been considerably weaker than manufacturing productivity growth during this expansion. Productivity in the nonfarm business sector grew at an annual average rate of 1.8 percent during this expansion, about the same as the expansion average. The possible reasons for the relatively slow productivity growth in the nonfarm, nonmanufacturing sectors are discussed in Chapter 1.

MONETARY POLICY

The Federal Reserve has faced two main challenges in formulating monetary policy during the current expansion. One was conducting

monetary policy without a reliable relationship between the monetary aggregates and economic activity. The short-run relationship between various monetary aggregates and income and interest rates, which began to break down in the mid-1970s, became further distorted by a combination of financial deregulation, disinflation, and possibly other unknown factors. Monetary policy actions tended to react more to developments in the real economy than to deviations of the monetary aggregates from their announced targets.

This control problem only exacerbated the overriding challenge facing the Federal Reserve, however, which was demonstrating its resolve to work toward price stability. Thus far in the current expansion, the Federal Reserve has successfully kept inflation from rising. Still, inflation remains above the Administration's goal of a zero average rate.

This partial success should not be taken to imply that developments in the real economy are the most efficient or the most reliable guides for making monetary policy. Using developments in the real economy as a guide to policymaking poses at least three risks. One is overreacting to short-run changes in economic indicators that are either temporary or illusory, to be revised away with more complete data. This overreaction adds needless and inefficient volatility to markets. Another risk is that policy will be based on imprecise or spurious economic models. During the 1960s and 1970s the Federal Reserve appeared to act as if there was a reliable short-run tradeoff between changes in inflation and unemployment, as embodied in the Phillips curve. The Federal Reserve appears to have reverted to this same kind of policy guide during the past few years. A third risk is that monetary policy will be based upon a shifting set of indicators, thereby obscuring the intent of policy. To succeed over the long term, monetary policy needs to take a long-term perspective, avoid reacting to erratic short-run developments, and avoid misleading the public about the direction of current policy.

THE ECONOMY IN 1988

At the beginning of the year many economic forecasters saw two major impediments to growth in 1988. One was the stock market crash in October 1987, which erased an estimated $650 billion of household wealth and which, before any offset from lower interest rates, raised the cost of capital to firms. The diminished value of consumer wealth was expected to lower real personal consumption expenditures, other things being constant, while the higher cost of capital was expected to depress real business fixed investment. The other impediment was the apparently large inventory overhang at

year-end. The large $67.1-billion increase in real business inventories, combined with slower spending resulting from the decline in stock prices, was expected to depress output growth in early 1988. Between early October 1987 and early November 1987, the consensus forecast for 1988 real GNP was revised down from 2.8 to 1.9 percent annual average growth, with only 1.4 percent annual average growth expected in the first half.

In fact, economic performance during 1988 considerably exceeded most expectations. Real GNP grew at an annual average rate of 2.9 percent during the first three quarters of 1988, and 3.2 percent during the first half. The stock market crash had a small impact on real personal consumption expenditures, which, after a weak fourth quarter in 1987, rose at an annual average rate of 3.8 percent during the first three quarters, and the personal saving rate averaged about 1 percentage point higher than in 1987. Little impact was evident on real business fixed investment, which grew at an annual average rate of 8.8 percent during the first three quarters, with producers' durable equipment expenditures up nearly 15 percent. Real net exports increased $32.1 billion during the first three quarters of the year, almost double their improvement during all of 1987. Nonfarm payroll employment increased by 3.4 million persons through November 1988, and real disposable personal income increased 3.5 percent on an average annual basis through the first three quarters of the year. Corporate profits after taxes, with inventory valuation and capital consumption adjustments, rose an average 3.9 percent, after 0.2 percent in 1987. Consumer prices, excluding food and energy, increased 4.6 percent during the first 11 months of 1988, slightly above the average of the past 5 years.

The growth in real GNP would have been stronger had it not been for the prolonged drought, which affected much agricultural production during the summer. Crop and livestock losses amounting to $12.3 billion during the year are expected to lower real GNP growth in 1988 about 0.7 percentage point, on a fourth-quarter-over-fourth-quarter basis, and temporarily to boost consumer food prices 1 percentage point.

THE IMPACT OF THE STOCK MARKET CRASH

It is now evident, more than 1 year later, that the stock market crash had little noticeable impact on U.S. economic activity. At a rudimentary level, little effect might have been expected because the stock market is not a particularly accurate predictor of economic activity. During the postwar period before 1987, about twice as many declines as recessions occurred in the stock market. Although by this measure the odds of recession in 1988 were 50-50, many economic

forecasters were convinced that the magnitude of the decline, the largest since the crash in 1929, raised the probability of recession. On a more fundamental level, little effect should have been expected because economic activity was strong at the time of the crash and because Federal Government policies and institutions prevented the crash from escalating into a recession.

Changes in stock prices can affect real output growth through two main channels. One is personal consumption expenditures. Consumers generally are thought to take a long view, spending not according to their current income but according to their expected lifetime consumable resources, including both human and nonhuman wealth components. Human wealth is the present discounted value of expected future after-tax labor income, and nonhuman wealth is the consumer's expectation of the long-run or permanent value of his or her current net financial and tangible assets. A drop in the value of corporate equity holdings that is expected to be permanent, all else being constant, will lower consumption, while a transitory drop will not affect consumption.

At the end of the third quarter of 1987, nonhuman wealth of consumers amounted to $15.1 trillion, with corporate equities outside of pension funds worth about $2.7 trillion or 18 percent. At the end of the fourth quarter of 1987, holdings of corporate equities by households had fallen by about $650 billion, most of which reflected capital losses. A common estimate of the marginal propensity to consume real permanent nonhuman wealth is about 4 cents for every dollar of nonhuman wealth, which implies that real personal consumption expenditures should have fallen about $25 billion or about 1 percent before other factors are considered. Real personal consumption expenditures during the fourth quarter of 1987 fell by about one-half of this amount, and have grown at an annual average rate of 3.8 percent during the first three quarters of 1988. The personal saving rate rose 2 percentage points in the fourth quarter of 1987, and has averaged almost 1 percentage point higher in 1988 than in 1987. In the aggregate, therefore, apparently consumers initially believed that only part of the stock market decline was permanent. Indeed, improvement in the overall stock price indexes during 1988 indicates that they were correct.

A second channel through which the stock market can affect real output is business investment. The stock market provides an up-to-the-minute estimate of the value of thousands of publicly traded firms. When the profits of a firm are expected to rise faster than in the past, the share price of the firm will also rise to reflect the greater expected value of the firm. At times, the stock market's valuation of a firm will differ from the replacement cost of the firm—what it

would cost to rebuild or replace the firm, hire equally competent personnel, and rebuild the firm's goodwill. Modern theories of investment posit that, in general, a new firm will be started or new investments will be undertaken by an existing firm when the firm's market value is greater than its replacement cost. Declines in stock prices, all other things being constant, depress investment.

Business investment did not fall in the fourth quarter of 1987, and continued to grow rapidly in 1988, suggesting that the impact of the stock market crash was small. During the first three quarters of 1988, real business fixed investment rose an average of 8.8 percent at an annual rate, unchanged from 1987. The reason why business investment did not collapse is that the stock market recovered some of its losses during the year and the decline in interest rates after the crash lowered the replacement cost of capital and offset some of the initial decline in stock prices.

The response of the economy to the 1987 crash, compared with its response after the 1929 crash, highlights the benefits that can be achieved when the Federal Government follows a proper course. Two differences of major importance emerge for the short-term adjustment of the economy, one affecting the exchange rate and one affecting the general conduct of monetary policy. In addition, differences in trade policy and taxation occurred in the periods following the two declines, as did differences in institutional arrangements affecting the financial system, built-in stabilizers, and other devices that reduce the risk of a severe contraction.

Immediately following both stock market crashes, the Federal Reserve acted to increase bank reserves. Major differences in monetary policy came later. A slowing in the decline of economic activity, visible in industrial production and personal income by the spring of 1930, was turned around by restrictive monetary actions. In 1929–33 the Federal Reserve allowed the money stock to fall by almost one-third, adding an extreme deflationary burden to any remaining effect of the crash. Attempts by money holders to shift from bank deposits to currency drained reserves from the banking system. By failing to offset the sequence of reserve drains, the Federal Reserve permitted large numbers of banks to fail, with severe effects on confidence and anticipations. In marked contrast, the Federal Reserve in 1988 first absorbed the additional reserves it had provided in timely response to the October crash, and through 1988 held money growth within its pre-announced growth range.

In 1929 the United States was on a gold standard, with exchange rates fixed against foreign currencies and gold. Under that regime, the deflationary effect of the crash and monetary restriction fell mainly on U.S. markets for goods and labor. Prices and wages had to

fall. Because money wages adjust slowly, a decline in prices raised real wages and lowered employment. Adjustment to the deflationary impulse was achieved by a downward adjustment of U.S. output and spending and by reductions in employment. In 1987, in contrast, the U.S. dollar was allowed to respond flexibly to market forces. Flexible adjustment in the real value of the dollar facilitated the adjustment of costs of production, and of the relative prices of domestic and foreign goods and assets, buffering the effects of the stock market crash and other events on U.S. markets for goods and labor.

Trade policy also differed following the 1929 and 1987 stock market crashes. Unlike today's emphasis on free trade, the United States in 1930 intensified protectionist policies with the passage of the Smoot-Hawley Act. International trade collapsed as foreign countries retaliated with their own protectionist measures, lowering world efficiency and incomes. In contrast, the United States and Canada in 1988 completed negotiation of the Free-Trade Agreement, committing both countries to the elimination of most remaining barriers to trade. This step and the President's rejection of strongly protectionist measures gave assurance that the United States did not intend to repeat the mistaken trade policies of the interwar period.

Another difference in the aftermath of the 1929 and 1987 stock market crashes can be found in tax policy. In 1932 President Hoover requested and received a large tax increase to balance the growing Federal Government budget deficit. This policy was, of course, the wrong one to request during a recession. In late 1987 the Administration and the Congress achieved modest reductions in the budget deficit for fiscal 1988 and 1989 from their projected baselines, but the last phase of the personal income tax reductions embodied in the Tax Reform Act of 1986 was allowed to take effect. Although partially offset by increases in corporate taxes, the personal income tax cut helped to limit any possible damage from the crash to real output.

SOURCES OF DEMAND

The composition of demand in 1988 continued the trends begun in 1987. Real gross nonresidential fixed investment and exports continued to grow rapidly. Spending restraint reduced real Federal Government spending on goods and services, freeing resources for the private sector. Consumer spending on goods and services continued to grow moderately, and the average personal saving rate during the first three quarters of 1988 was 0.8 percentage point higher than the unusually weak rate of 1987.

Gross nonresidential fixed investment rose at an annual average rate of 8.8 percent during the first three quarters of 1988, unchanged from 1987. All of this growth was accounted for by gross producers'

durable equipment spending, which rose at a 14.9 percent annual average rate. Every major component of gross producers' durable equipment grew strongly: information processing and related equipment rose 18.9 percent; after little growth in 1987, industrial equipment increased 13.9 percent; and transportation and related equipment grew 18.7 percent.

Spending on nonresidential structures fell an average 6.3 percent per year during the first three quarters of 1988, with all of the decline (−22.4 percent) in the first quarter. Most of the decline appeared in nonresidential buildings, partly because of the elimination of tax incentives in 1986, although investment in mining exploration, shafts, and wells remained weak in response to the continued decline in the relative price of oil. Adjusted for inflation, the refiners' acquisition cost of imported crude oil fell 47.3 percent between January 1986 and August 1988.

The overall decline in the real value of the U.S. dollar since 1985 and slower unit labor cost growth in U.S. manufacturing have improved the competitiveness of U.S. goods in world markets. Thus, real net exports accounted for a large share of the real output gain in 1988, continuing a trend begun in the fourth quarter of 1986. During the first three quarters of 1988, real net exports increased a total of $32.1 billion, about the same as the dollar increase in nonresidential fixed investment and about one-half of the increase in personal consumption expenditures. Export growth has continued strong at an annual average rate of 16.2 percent, while import growth has slowed by one-half to 5.2 percent. Real exports of agricultural products were up at an annual average rate of 10.4 percent, real exports of nonagricultural products rose 19.5 percent, real imports of nonpetroleum products rose 1.5 percent, and real imports of petroleum products rose 9.4 percent. All major merchandise export components grew strongly in 1988, with consumer goods up 36.3 percent, capital goods except autos up 24.9 percent, foods, feeds, and beverages up 12.0 percent, and industrial supplies and materials up 17.6 percent. The trade balance in industrial supplies has seen the greatest improvement, up $12.6 billion. Following industrial supplies, the capital goods balance improved $9.8 billion, despite a 15.5 percent increase in capital goods imports; autos were up $5.2 billion; consumer goods rose $4.7 billion; and the food, feeds, and beverages balance increased $3.7 billion.

Spending restraint and fewer purchases of agricultural products by the Commodity Credit Corporation (CCC) induced by the drought reduced Federal Government spending on goods and services in 1988. Real Federal spending on goods and services fell at an annual average rate of 10.4 percent over the first three quarters of 1988,

with defense spending down 5.8 percent and nondefense spending down 25.6 percent. All components of defense spending fell in 1988, with durable goods accounting for most of the decline. Virtually all of the decline in nondefense purchases is attributable to the change in inventories held by the CCC. Excluding the CCC inventory change, real nondefense spending grew at an annual average rate of 0.7 percent, while total real Federal purchases were down only 4.6 percent.

Real personal consumption expenditures grew at an annual average rate of 3.8 percent during the first three quarters of 1988, but part of this rise simply reflects the low base of the fourth quarter of 1987. Much of the decline in real personal consumption expenditures during the fourth quarter of 1987 occurred in new automobile purchases, which fell after sales incentives expired in September 1987. If real consumer purchases of new autos during the fourth quarter of 1987 had grown at the same rate as their average during the fourth quarter of 1987 and the first quarter of 1988, real personal consumption expenditures' growth during the first three quarters of 1988 would be 3.2 percent, close to its postwar average annual growth.

After falling 3.5 percent in 1987, real residential fixed investment fell at an annual average rate of 0.8 percent during the first three quarters of 1988. Most of the decline in both years occurred in multifamily structures, reflecting the large supply of these structures created by tax incentives that existed until 1987. Spending on single-family structures fell at an average rate of 2.5 percent per year over the first three quarters of 1988, with most of the decline occurring in the first quarter.

Real State and local government purchases of goods and services grew an average 2.6 percent per year over the first three quarters of 1988, slightly slower than GNP and about the same as their 2.5 percent pace in 1987. Purchases of goods grew at an annual average rate of 6.5 percent, while spending on services grew 2.4 percent. After almost 8 percent average growth in 1985 and 1986, spending on infrastructure slowed in 1987, and the weakness continued into 1988. Spending on structures fell at an annual average rate of 2.0 percent in 1988, after rising 1.7 percent in 1987.

Over the first three quarters of 1988, business inventory investment fell a total of $27.6 billion. All of the decline occurred in nonfarm business inventories, which fell $27.8 billion.

PRICES, WAGES, AND EMPLOYMENT

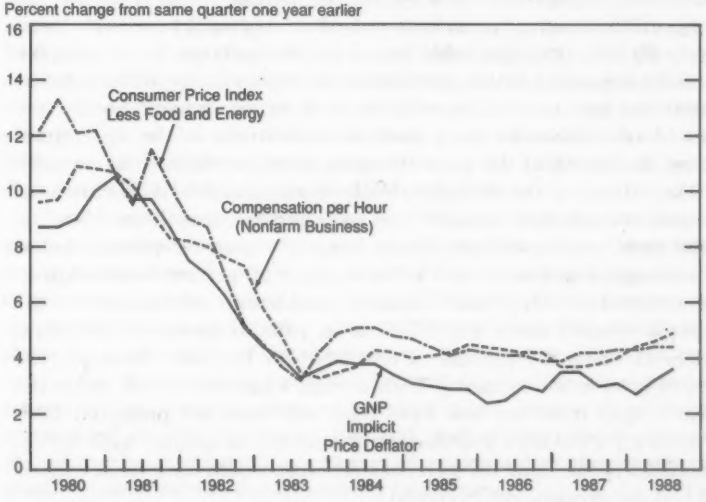
Employment continued to increase strongly in 1988. Civilian employment rose by 2.2 million through November, while the civilian unemployment rate fell 0.4 percentage point to 5.4 percent, among

the lowest rates in 14 years. Nonfarm payroll employment increased by 3.4 million during the first 11 months of 1988, with strong gains in export-related industries.

Continued strong employment gains were barely reflected in stronger compensation growth in 1988. Compensation per hour in the nonfarm sector increased 4.5 percent on average during the first three quarters of 1988, slightly above its 1987 rate of increase, and real compensation growth increased about 0.1 percent, after falling slightly in 1987. The growth in compensation per hour in manufacturing increased to 4.4 percent on average during the first three quarters of 1988, almost three times as fast as in 1987, while unit labor costs were up 0.3 percent, after falling 1.7 percent in 1987. Abstracting from short-term movements, the trends in nominal compensation per hour and in unit labor costs were rising slightly during 1988, but do not point to serious cost pressures in the aggregate (Chart 7–4).

Chart 7-4

Hourly Compensation and Prices



Sources: Department of Commerce and Department of Labor.

Signs of any rise in inflation were mixed in 1988. Producer prices grew somewhat faster in 1988 than in 1987, but the increase was minor. The consumer price index for urban consumers increased 4.4 percent in the first 11 months of 1988, but excluding the volatile

food and energy components, consumer prices increased 4.6 percent during the year, only slightly above the average of the past 5 years.

THE IMPACT OF THE DROUGHT

The drought of 1988 was one of the worst on record for principal agricultural regions of the Midwest and Upper Mountain States. The drought began early in the growing season and rains were delayed long enough to drastically reduce yields of corn and soybeans, as well as less important crops such as spring wheat, barley, oats, and some Midwest vegetables. Hay crops and livestock forage in pastures were also severely reduced.

Impacts of the drought on other regions and industries have been smaller or localized. Stream flows in the Tennessee Valley had already been reduced by several years of smaller amounts of precipitation. Shipping and electrical generation were hampered in several regions. In the Far West, 2 years of drought have reduced water supplies to extremely low levels. Although these low water supplies had little effect on 1988 output, if precipitation in the winter of 1989 is below normal again, crop losses in the irrigated valleys of the Far West will be severe. Forest fires and water shortages have been localized with little distinguishable impact on the economy as a whole. Potentially important losses attributable to higher barge transportation costs were not a major impediment to economic activity. Finally, despite severe losses to some financial institutions in the agricultural areas, the health of the rural financial system continued to improve.

The effects of the drought clearly distinguishable in the national income and product accounts are crop and livestock losses. For the 1988 crop year, corn production was more than 30 percent below pre-drought expectation and soybeans were 20 percent below expected levels. Lost crop and livestock production attributable to the drought totaled about $12.3 billion in 1988 in terms of 1982 farm prices or about 0.7 percent of real GNP for the year. However, the loss in growth is temporary. With normal weather in 1989, increased farm output from the low 1988 base will raise the projected GNP growth for 1989 on a fourth-quarter-over-fourth-quarter basis by approximately the same 0.7 percent over what would have been expected had the drought not occurred.

Large inventory stocks have moderated the drought's effect on prices, but cash market prices for corn and wheat are up about 30 percent relative to pre-drought levels. Because of the importance of nonfarm inputs and farm goods unaffected by the drought, however, higher commodity prices from the drought added about 1 percentage point to the rise in retail food prices for 1988.

Higher crop prices also affect the quantity of U.S. agricultural exports and raise the costs that livestock producers and other producers face in the food industry. However, higher output prices raised gross cash receipts of farmers in 1988. Net cash income was near record high levels in 1988 because, in the aggregate, the higher output prices that farmers received more than offset the yield losses and higher input prices. Direct payments under the drought assistance legislation and feed assistance and crop insurance also supported incomes, as did the sale of farm inventories at sharply higher prices.

MACROECONOMIC POLICIES

Spending restraint and fewer Commodity Credit Corporation purchases of agricultural products because of the drought helped lower the Federal Government budget deficit in fiscal 1988. Nevertheless, the deficit on a unified budget basis rose to $155.1 billion, $4.7 billion more than in fiscal 1987. Total outlays rose $59.5 billion to $1,064.1 billion, while total receipts rose $54.9 billion to $909.0 billion. The increase in the deficit between 1987 and 1988 is attributable to the reversal of special factors that reduced the 1987 deficit. The phase-in of the Tax Reform Act of 1986 added $21.5 billion to receipts in 1987, but reduced tax collections by $4.5 billion in 1988. Timing changes, such as the 1-day shift in military pay, and one-time savings such as the sale of Conrail, held down net outlays by $10.5 billion in 1987. Without these special factors, the deficit would have declined by $31.1 billion between 1987 and 1988.

When discussing monetary policy in 1988, it is important to distinguish policy from actions designed to achieve that policy. Monetary policy is summarized currently by Federal Reserve announcements of target ranges for the annual growth of M2 and M3. The target ranges are usually 3 to 4 percentage points wide, reflecting the uncertainty about the relationship of these monetary aggregates to economic activity. Over the course of a year the Federal Reserve may take various actions to keep the aggregates within their target ranges. Apart from unexpected shocks to money demand and supply, these actions should not be interpreted as changes in policy unless they result in money growth outside the announced target ranges.

In 1988 the Federal Reserve achieved its announced monetary policy for the first time in 3 years. The growth rates of both M2 and M3 were comfortably within their target ranges at year-end. Early in the year the Federal Reserve allowed monetary aggregates to approach the upper limit of their target ranges in order to limit any impacts of the stock market crash on economic activity. By March it was evident that the stock market crash would not seriously affect spend-

ing growth, and the Federal Reserve began taking actions that brought the growth of the monetary aggregates closer to the midpoint of target ranges by the third quarter of the year.

In July the Federal Reserve announced its preliminary policy intentions for 1989. It lowered the target range for M2 from 4 to 8 percent in 1988 to 3 to 7 percent in 1989. For M3, it lowered the target range from 4 to 8 percent to 3.5 to 7.5 percent for 1989. The lowering of the target ranges is consistent with the Federal Reserve's desire, expressed in its targets, to promote a steady reduction in the inflation rate over time. The Federal Reserve's target of slightly faster growth for M3 reflects its expectation that the public will substitute away from M2 assets and toward assets found in the broader monetary aggregates. If both M2 and M3 remain near the midpoints of their target ranges in 1988, the transition to modestly slower growth of the monetary aggregates in 1989 is likely to be a smooth one.

THE ECONOMIC OUTLOOK

The Administration's economic forecast for 1989 reflects three continuing changes in the U.S. economy: improved international competitiveness, more restrictive macroeconomic policies, and the effects of temporary shocks to the economy. The forecast anticipates a continuation of the transition of the U.S. economy from growth led by domestic demand to growth driven by expanding world markets, the result of the United States' improved competitive position. Tempering overall growth, however, are policies of monetary and fiscal restraint. Slower monetary growth for most of 1988 following rapid growth in the first part of the year, reflects two major considerations: the cessation of post-crash fears of recession and the long-run national commitment to achieve stable prices. Adherence to the deficit reduction targets of the Gramm-Rudman-Hollings legislation continues to encourage fiscal restraint. These policies are expected to hold nonfarm economic growth below its 1988 pace.

As the economy approaches full use of its current resources, slower growth relative to the rapid pace of recent years is a desired development. Slower domestic demand growth will allow for the continued expansion of the Nation's international sector. Slower overall growth will enable capacity to expand to meet demands in future years and continue the current record-setting expansion.

The Administration's economic forecast anticipates that real GNP will rise 3.5 percent from the fourth quarter of 1988 to the fourth quarter of 1989, after increasing an estimated 2.6 percent during 1988. These figures are not, however, representative of the underly-

ing pattern of slower growth expected for most sectors of the economy in 1989. Distorting the picture of slower growth are the concluding effects of last year's drought. The impact of the drought on crop and livestock output lowered overall growth last year, and the expected return to more normal weather conditions and farm output levels will temporarily boost real GNP growth in 1989. As noted above, lower drought-induced farm output in 1988 is estimated to have subtracted 0.7 percentage point from real GNP growth in 1988 (fourth quarter to fourth quarter), and the anticipated rebound in farm production this year will contribute approximately 0.7 percentage point to growth in 1989. After adjusting for the impact of the drought on farm production, real GNP is estimated to have grown 3.3 percent in 1988. Drought-adjusted GNP growth is forecast to be 2.8 percent in 1989, indicating continued healthy expansion of the nonfarm economy, but at a somewhat slower pace than during 1988 and significantly slower than the rapid but likely unsustainable 5.0 percent pace of real GNP in 1987.

The growth rates of components of real GNP for 1989, partially detailed in Table 7–2, reflect the slowing trend in the nonfarm economy as well as the continued trend toward expanding international trade and slower domestic demand. All components except residential and inventory investment and government purchases are projected to rise at a somewhat slower pace in 1989 relative to 1988.

TABLE 7–2.—*Economic Outlook for 1989*

Item	1988[1]	1989 forecast
	Percent change, fourth quarter to fourth quarter	
Real gross national product	2.6	3.5
Personal consumption expenditures	3.3	2.0
Nonresidential fixed investment	8.4	4.9
Residential investment	−.4	2.7
Federal purchases of goods and services	−4.4	−.6
State and local purchases of goods and services	2.7	3.0
GNP implicit price deflator	3.9	3.7
Compensation per hour[2]	4.6	4.7
Output per hour[2]	.9	1.5
	Fourth quarter level	
Unemployment rate (percent)[3]	5.3	5.2
Housing starts (millions of units, annual rate)	1.5	1.5

[1] Estimate.
[2] Nonfarm business, all persons.
[3] Unemployed as percent of labor force including resident Armed Forces.

Note.—Based on seasonally adjusted data.

Sources: Department of Commerce (Bureau of the Census and Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

Consistent with slower domestic demand, real consumer purchases are forecast to increase 2.0 percent this year, down from the estimated 3.3 percent pace of 1988. Slower consumption growth relative to income growth is expected to lift the personal saving rate somewhat in 1989. Reflecting the continued trade-oriented realignment of the U.S. economy, a continued strong increase in real net exports is projected partly to offset slower personal consumption growth. As the result of growing U.S. competitiveness in world markets, exports will continue to be one of the biggest factors contributing to growth in 1989. Real import growth will slow compared with growth in recent years, as the result of slower drought-adjusted GNP growth and continued substitution away from more costly foreign, toward less costly domestically, produced products. Although the improvement in real net exports is not expected to continue at the record-setting pace of 1988, the trade sector of the economy is projected to contribute significantly to growth in 1989 and beyond.

The need for further capacity in the exporting and import-competing sectors of the economy is anticipated to continue to stimulate growth in nonresidential fixed investment. Continued export demand should also help support capital goods production. Owing to these factors, nonresidential fixed investment is forecast to rise a substantial 4.9 percent in 1989, slower than the estimated 8.4 percent growth rate achieved in 1988.

Residential investment is projected to rise modestly in 1989, following the modest estimated gains during the second half of 1988. The recent rise comes after nearly a year and a half of decline, prompted partly by reduced incentives for multi-unit construction arising under the Tax Reform Act of 1986.

After subtracting significantly from growth in 1988, inventory investment is also expected to contribute to GNP growth in 1989, as inventory-building progresses at a slower but more sustainable pace. The decline in the pace of inventory-building in 1988 reflects a return to more normal inventory-building patterns in the nonfarm sectors of the economy following a large unanticipated accumulation of inventories in the fourth quarter of 1987, when domestic final sales growth temporarily halted. In the farm sector, inventories are expected to accumulate in 1989 after substantial drought-induced withdrawals for most of 1988.

Government purchases at the State and local levels in 1989 are projected to increase 3.0 percent, similar to the pace of 1988. At the Federal level, further decline in real purchases is expected in 1989 which will help to moderate domestic growth. Although Table 7–2 indicates that the decline in total Federal purchases appears to be slowing in 1989 relative to 1988, the drought explains much of the

1988 drop. Net CCC farm inventory purchases were reduced as higher drought-related crop prices and lower production induced farmers to redeem crops and the CCC to sell inventories directly to the open market. Crop redemption and government inventory sales are expected to diminish in 1989, as farm production recovers. Projected real Federal purchases, after adjusting for the one-time effect of the drought, reflect continued declines in 1989, following the pattern set in 1988.

Inflation, as measured by the GNP deflator, is forecast to be 3.7 percent in 1989 on a fourth-quarter-to-fourth-quarter basis, compared with an estimated 3.9 percent in 1988. In line with slower growth in the nonfarm economy, little change is expected in capacity utilization rates and the rate of unemployment this year. This will help to contain sectoral capacity problems that can put upward pressure on prices. Also, higher energy prices at the retail level and higher farm prices were temporary factors helping to raise prices in 1988. The end of the drought, coupled with currently lower crude oil prices, is expected to moderate price increases during 1989, and keep reported rates of inflation within the approximately 3 percent to 4 percent range of previous years. Consistent with slower growth and moderating inflation is the expectation of somewhat lower interest rates in 1989.

PROJECTIONS FOR 1990–94

Table 7–3 summarizes the Administration's medium-term economic projections for the period 1990 through 1994. The projections are not year-to-year forecasts; rather, they indicate expected trends based on underlying factors, discussed in the next section, that will allow continued expansion of the economy's capacity to produce. These projections are contingent on the successful implementation of current and proposed government policies and on the assumption of no serious adverse shocks to growth. Implicit in these figures is the assumption that the free-market, incentive-oriented policies of this Administration, which have promoted the growth and more efficient use of national resources, will continue in coming years. In particular, the projections embody the assumption that Federal spending continues to be brought under control and that the benefits of tax reform are retained. Through spending restraint and economic growth, the Federal deficit is assumed to decline in line with the Gramm-Rudman-Hollings targets for deficit reduction. It is also assumed that the Federal Reserve provides sufficient expansion of monetary aggregates to maintain economic growth, while fostering continued progress toward the long-term goal of price stability.

TABLE 7–3.—*Administration Economic Assumptions, 1988–94*

[Calendar years]

Item	1988	1989	1990	1991	1992	1993	1994
	Percent change, year to year						
Real GNP	3.8	3.2	3.2	3.3	3.2	3.2	3.2
Real compensation per hour[1]	.5	.9	1.2	1.8	2.0	1.9	1.9
Output per hour[1]	1.5	1.2	1.8	2.0	2.1	2.1	2.1
Consumer price index[2]	4.0	3.8	3.7	3.2	2.7	2.2	1.7
	Annual level						
Employment (millions)[3]	116.7	118.6	120.4	122.3	124.0	125.7	127.4
Unemployment rate (percent)[4]	5.4	5.2	5.1	5.0	5.0	5.0	5.0

[1] Nonfarm business, all persons.
[2] For urban wage earners and clerical workers.
[3] Includes resident Armed Forces.
[4] Unemployed as percent of labor force including resident Armed Forces.
Source: Council of Economic Advisers.

The Full Employment and Balanced Growth Act of 1978 requires that the *Economic Report of the President*, together with the *Annual Report of the Council of Economic Advisers*, include an investment policy report and a review of progress in achieving goals specified in the act. The strongest incentive for expanding the employment of both physical and human resources is profitable and growing markets. Major policy goals of this Administration have been to promote a stable noninflationary macroeconomic environment and encourage private initiative to adjust to take advantage of changing market conditions. Progress toward achieving these goals has allowed the current expansion to continue into its seventh year. As a result, real nonresidential fixed investment has grown more than 40 percent in 6 years, a peacetime record compared with similar timespans following previous postwar recession troughs.

Table 7–3 presents estimates of important macroeconomic measures that address the goals specified in the act. The table shows continued economic growth, rising compensation, lower rates of unemployment, and further progress toward price stability. The unemployment rate recently has fallen to the lowest level in 14 years, while the share of the adult population employed has increased to its highest level in the Nation's history. Unlike the expansions of the past 40 years, this expansion of employment and output has been accompanied by a stable rate of inflation. The policies of this Administration have done much to achieve the goals specified in the act. Continued adherence to these policies in the future is necessary to ensure progress toward meeting these goals.

The long-run improvement in the Nation's standard of living depends importantly on expansion of its capacity to produce, which in turn is determined by the growth and productiveness of its resources. Growth and productiveness are functions of longer run underlying trends in the economy and incentives created by the economic environment, the latter being influenced by government policies. Favorable longer term trends, combined with policies directed at improving growth and maintaining the healthy economic climate the Nation currently enjoys, are projected to maintain the momentum that the economy has developed during the 1980s, returning it to the trend rate of growth of the postwar era.

Over the projection period, these long-run forces—growth of the labor force and labor productivity—are supplemented by changes in the utilization of capital and labor. The productivity of labor depends on the education, experience, and the skills of the labor force; on the supplies of physical capital and other cooperating factors of production; and on the technological efficiency of resource allocation. Influencing the supply of labor are the size of the general population and its demographic characteristics and incentives to undertake employment in the market economy. The cyclical state of the economy affects the use of capital and labor by encouraging or discouraging the search for jobs, by changing the mix of factors in production, and by changing the demand for inputs.

A detailed breakdown of the components that make up these sources of growth, organized into an accounting framework, is presented in Table 7–4. In order to focus on trends in the economy and to avoid the complications of cyclical fluctuations, the first two columns of the table show growth rates from business cycle peak to business cycle peak for historical periods. The third column shows growth from the peak of the last business cycle through the third quarter of 1988, and the final column presents growth rates over the projection period, which extends through 1994.

Growth of the labor force is expected to slow somewhat further during the projection period, mainly because of changes in the demographic composition of the population. The gradual decline in the growth rate of the adult population, which has occurred since the baby-boom generation reached adulthood in the 1960s and 1970s, is expected to continue into the next decade. As Table 7–4 shows, increases in labor force participation (the fraction of the adult population in the labor force) also determine labor force growth. Strongly rising rates of labor force participation that have existed since the 1970s are expected to continue in coming years. Increases in overall participation will likely reflect continued entry of women into the

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TABLE 7–4.—*Accounting for Growth in Real GNP, 1948–94*

[Average annual percent change]

Item	1948 IV to 1981 III	1973 IV to 1981 III	1981 III to 1988 III	1988 III to 1994 IV
GROWTH IN:				
1) Civilian noninstitutional population aged 16 and over	1.5	1.8	1.2	0.9
2) PLUS: Civilian labor force participation rate	.2	.5	.5	.5
3) EQUALS: Civilian labor force	1.8	2.4	1.7	1.4
4) PLUS: Civilian employment rate	−.1	−.4	.3	.1
5) EQUALS: Civilian employment	1.7	2.0	2.0	1.5
6) PLUS: Nonfarm business employment as share of civilian employment	.1	.1	.3	.2
7) EQUALS: Nonfarm business employment	1.7	2.1	2.3	1.7
8) PLUS: Average weekly hours (nonfarm business)	−.4	−.6	−.1	−.1
9) EQUALS: Hours of all persons (nonfarm business)	1.4	1.5	2.2	1.6
10) PLUS: Output per hour (productivity, nonfarm business)	1.9	.6	1.4	1.9
11) EQUALS: Nonfarm business output	3.3	2.0	3.7	3.6
12) LESS: Nonfarm business output as share of real GNP	−.0	−.1	.7	.4
13) EQUALS: Real GNP	3.3	2.2	3.0	3.2

Note.—Based on seasonally adjusted data. Detail may not add to totals due to rounding.

Sources: Department of Commerce (Bureau of the Census and Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

work force, higher participation of young workers as they make up a smaller proportion of the population, and a slowing of the decline in participation of people over 55. Reductions in marginal tax rates on labor income initiated during this Administration are expected to encourage labor force participation in the years ahead. Furthermore, maintenance of a stable, growing economy with expanding employment opportunities encourages increased labor force participation. Overall, the civilian labor force is projected to rise 1.4 percent per year during the projection period.

Changes in the utilization of labor are indicated by the growth of employment relative to the labor force. Civilian employment is projected to grow at an annual average rate that is slightly faster than labor force growth over the projection period, reflecting further modest declines in the rate of unemployment. The 0.1 percent annual increase in the employment rate appearing in the last column of the table reflects the estimated decline in the unemployment rate from current levels to 5.0 percent in 1991 and later years. It is assumed that, at approximately this level, remaining unemployment is largely frictional.

The estimate of civilian employment growth is adjusted to cover the nonfarm business sector in order to match published statistics for productivity. A further adjustment, to account for a slight projected decline in the length of the workweek, yields the growth rate of total hours available for production indicated in Table 7–4. The sum of the growth rate of total hours and the growth rate of output per hour

(productivity for nonfarm business) determines the growth rate of nonfarm business output over the medium term. After adjustments for the effect of relatively stronger growth in the nonfarm business sector than in other sectors in the economy, the rate of growth of real GNP is shown on the final line of Table 7–4.

The table shows that the average growth rate of real GNP through 1994 is projected to be 3.2 percent a year, the same as the average rate of the 1948–88 postwar period. Continued strong increases in labor force participation and a higher rate of productivity growth are projected to offset slower population growth.

Critical to these projections is the assumption of continued productivity growth at the average rate of increase achieved from 1948 to 1981. This assumption recognizes favorable trends in the economy that are expected to restore productivity growth to its previous trend, as well as policy initiatives that are expected to promote technological change and growth in physical and human capital. Aging of the baby-boom generation implies a trend toward a more experienced, more educated, and more skilled work force that should translate into improved productivity growth in coming years. Slower growth of the labor force will facilitate capital deepening in coming years, that is, an increase in the stock of capital per employed worker. Continued stability and gradual decline of the inflation rate should also contribute to stronger productivity growth by reducing the cost of capital and by focusing managerial energies on improving efficiency in resource allocation. Oil and energy prices are expected to remain lower than in the late 1970s and early 1980s, implying that firms will have more resources to spend on investments that enhance general productivity than on investments that reduce energy costs.

Government policies should also contribute to increased productivity growth. Partly as a result of government initiatives, research and development expenditures as a share of GNP are expected to remain higher than in the 1970s, thus promoting innovation and technological change. Government initiatives to improve education and to promote investment in knowledge and human capital should also lift productivity growth. Tax reform has lessened the distortions to investment decisions by establishing more equal effective tax rates across investment activities. This effect, coupled with policy initiatives to lower market barriers and distortions, will allow capital and labor to realize their productive potential more fully. Finally, avoiding short-run stabilization policies will increase the likelihood of maintaining a noninflationary economic environment. That environment will, in turn, allow private producers to concentrate on achieving higher productivity growth and profitability.

THE LEGACY OF THIS ADMINISTRATION

High and rising inflation, distorted tax incentives, and burdensome regulation sapped the productive energies of the Nation during the 1970s. Productivity and real income growth stagnated, and U.S. competitiveness in world markets was severely eroded. The cure for these economic problems required nothing less than a fundamental refocusing of Federal Government responsibilities and policy initiatives. This refocusing of government policy is the legacy of this Administration.

The underlying tenet of economic policy in this Administration is that, with the proper incentives, private markets generally provide more efficient economic outcomes than are possible with direct government intervention. Thus, the Administration discarded social and economic policies that were wasteful and not incentive-based, and reversed activist aggregate-demand management policies. The Administration undertook efforts to establish and maintain a stable policy environment in which private initiative played the major role in providing desired outcomes. At the same time, the Federal Government continued to support basic public infrastructure investments and provide a social safety net.

Stable and incentive-based economic policies have served the Nation well in the past. Real incomes and standards of living improved rapidly between 1900 and 1913, during the 1920s, and between 1946 and 1965, when the money supply generally grew at a noninflationary rate and Federal Government spending was geared to providing basic services. On the other hand, economic performance deteriorated when such policies were not followed. For example, recession turned into depression during the early 1930s when the Federal Reserve allowed the money supply to fall by one-third between 1929 and 1933, and U.S. beggar-thy-neighbor trade policies incited retaliation and a consequent decline in world trade and income. Inflationary monetary policy, high tax rates and inflation-distorted tax incentives, and a large and growing regulatory burden contributed to the stagflation of the 1970s.

The redefinition of fiscal policy under this Administration has been aptly described as a fiscal revolution. This revolution has not overthrown the Employment Act of 1946, which commits the Federal Government to maintaining high levels of income, employment, and purchasing power. It has overthrown a long entrenched view of the best way to achieve the goals of the act. Gone are attempts to smooth fluctuations in aggregate demand through frequent changes in government expenditure and tax policies and efforts to find a balanced mix of fiscal and monetary actions. As indicated in Chapter 1 of this

Report, this activist policy has generally failed to smooth aggregate fluctuations, and in a few cases has actually increased the variability of aggregate demand. Instead, this Administration has worked to establish and maintain stable incentives for productive behavior by reducing marginal tax rates on capital and personal income, indexing personal income tax rates to the rate of inflation, eliminating wasteful tax preferences that distort incentives, and controlling government outlays. Monetary policy has been used principally to achieve and maintain a modest rate of inflation.

Another important element of the incentive-based policies of this Administration was a commitment to flexible exchange rates and free international trade. The rationale for this commitment is given in Chapter 4, which demonstrates that international trade is not a zero-sum game, where an increase in the exports of one country offsets a reduction in exports by other countries. Free trade expands world trade and raises incomes of all nations.

Flexible exchange rates and free trade send a prompt and accurate signal about the competitive position of a nation in world markets. The decline in competitiveness of U.S. goods in world markets created by the stagflation of the 1970s was laid bare during the first half of the 1980s, when U.S. goods lost a considerable market share of world trade. The efficient solution to this loss of competitiveness was not, and is not, a shield fashioned from tariffs, quotas, and other impediments to trade. Free trade gave U.S. manufacturers an efficient, market-based incentive to compete on the basis of the price and quality of their goods. As documented in Chapter 1 and earlier in this chapter, U.S. manufacturers have lowered production costs and improved their productivity, and, with help from a lower value of the U.S. dollar in foreign exchange markets, they have seen a substantial rise in their world market share.

Flexible exchange rates and free trade impose a discipline on economic policymakers worldwide, providing the incentive to implement sound, market-based economic policies and to coordinate these policies with other countries. A good example of this discipline appeared in the early 1980s, when the U.S. dollar began to appreciate in foreign exchange markets. The initial reason for this appreciation was the confidence on the part of U.S. and foreign investors that the economic policies of this Administration would contribute to strong economic growth and lower inflation in the United States relative to the rest of the world. The U.S. dollar continued to appreciate after the Administration's policies were implemented, and these expectations were fulfilled. Foreign capital inflows into the United States signaled to foreign governments that their own economic policies needed to be redirected in the same manner as in the United States. Other

countries lowered their tax and inflation rates, and deregulated and privatized many of their key industries. As countries implemented these policies, their economic growth has increased and the U.S. dollar has depreciated in response.

The challenge for the future is to sustain political and economic stability by maintaining a strong national defense and the commitment to market-based policies and price stability. Further efforts to deregulate domestic markets and international markets slated for upcoming negotiations under the General Agreement on Tariffs and Trade should be assigned high priority. Moreover, national governments worldwide must work to establish consistent monetary policies to achieve and maintain price stability. With these policies acting as the foundation, national economies can build on the achievements gained during this President's stewardship of the U.S. economy, and can continue to improve standards of living worldwide.

Appendix A
REPORT TO THE PRESIDENT ON THE ACTIVITIES OF THE COUNCIL OF ECONOMIC ADVISERS DURING 1988

LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS,
Washington, D.C., December 31, 1988.

MR. PRESIDENT:

The Council of Economic Advisers submits this report on its activities during the calendar year 1988 in accordance with section 10(d) of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,

Beryl W. Sprinkel, *Chairman*
Thomas Gale Moore, *Member*

Council Members and their Dates of Service

Name	Position	Oath of office date	Separation date
Edwin G. Nourse	Chairman	August 9, 1946	November 1, 1949.
Leon H. Keyserling	Vice Chairman	August 9, 1946	
	Acting Chairman	November 2, 1949	
	Chairman	May 10, 1950	January 20, 1953.
John D. Clark	Member	August 9, 1946	
	Vice Chairman	May 10, 1950	February 11, 1953.
Roy Blough	Member	June 29, 1950	August 20, 1952.
Robert C. Turner	Member	September 8, 1952	January 20, 1953.
Arthur F. Burns	Chairman	March 19, 1953	December 1, 1956.
Neil H. Jacoby	Member	September 15, 1953	February 9, 1955.
Walter W. Stewart	Member	December 2, 1953	April 29, 1955.
Raymond J. Saulnier	Member	April 4, 1955	
	Chairman	December 3, 1956	January 20, 1961.
Joseph S. Davis	Member	May 2, 1955	October 31, 1958.
Paul W. McCracken	Member	December 3, 1956	January 31, 1959.
Karl Brandt	Member	November 1, 1958	January 20, 1961.
Henry C. Wallich	Member	May 7, 1959	January 20, 1961.
Walter W. Heller	Chairman	January 29, 1961	November 15, 1964.
James Tobin	Member	January 29, 1961	July 31, 1962.
Kermit Gordon	Member	January 29, 1961	December 27, 1962.
Gardner Ackley	Member	August 3, 1962	
	Chairman	November 16, 1964	February 15, 1968.
John P. Lewis	Member	May 17, 1963	August 31, 1964.
Otto Eckstein	Member	September 2, 1964	February 1, 1966.
Arthur M. Okun	Member	November 16, 1964	
	Chairman	February 15, 1968	January 20, 1969.
James S. Duesenberry	Member	February 2, 1966	June 30, 1968.
Merton J. Peck	Member	February 15, 1968	January 20, 1969.
Warren L. Smith	Member	July 1, 1968	January 20, 1969.
Paul W. McCracken	Chairman	February 4, 1969	December 31, 1971.
Hendrik S. Houthakker	Member	February 4, 1969	July 15, 1971.
Herbert Stein	Member	February 4, 1969	
	Chairman	January 1, 1972	August 31, 1974.
Ezra Solomon	Member	September 9, 1971	March 26, 1973.
Marina v.N. Whitman	Member	March 13, 1972	August 15, 1973.
Gary L. Seevers	Member	July 23, 1973	April 15, 1975.
William J. Fellner	Member	October 31, 1973	February 25, 1975.
Alan Greenspan	Chairman	September 4, 1974	January 20, 1977.
Paul W. MacAvoy	Member	June 13, 1975	November 15, 1976.
Burton G. Malkiel	Member	July 22, 1975	January 20, 1977.
Charles L. Schultze	Chairman	January 22, 1977	January 20, 1981.
William D. Nordhaus	Member	March 18, 1977	February 4, 1979.
Lyle E. Gramley	Member	March 18, 1977	May 27, 1980.
George C. Eads	Member	June 6, 1979	January 20, 1981.
Stephen M. Goldfeld	Member	August 20, 1980	January 20, 1981.
Murray L. Weidenbaum	Chairman	February 27, 1981	August 25, 1982.
William A. Niskanen	Member	June 12, 1981	March 30, 1985.
Jerry L. Jordan	Member	July 14, 1981	July 31, 1982.
Martin Feldstein	Chairman	October 14, 1982	July 10, 1984.
William Poole	Member	December 10, 1982	January 20, 1985.
Beryl W. Sprinkel	Chairman	April 18, 1985	
Thomas Gale Moore	Member	July 1, 1985	
Michael L. Mussa	Member	August 18, 1986	September 19, 1988.

Report to the President on the Activities of the Council of Economic Advisers During 1988

The Council of Economic Advisers was established by the Employment Act of 1946 to provide economic analysis and advice to the President and thus to assist in the development and implementation of national economic policies. The Council also advises the President with regard to decisions on other matters that affect the health and operations of the Nation's economy.

Beryl W. Sprinkel and Thomas Gale Moore continued to serve as Council Members in 1988, with Dr. Sprinkel as Chairman. Michael L. Mussa resigned as a Member on September 19, 1988, to return to the University of Chicago where he is the William H. Abbott Professor of International Business. Allan H. Meltzer, the John M. Olin Professor of Political Economy and Public Policy at Carnegie-Mellon University, served as a consultant to the Council for macroeconomic policies during the remainder of the Administration.

MACROECONOMIC POLICIES

As is its tradition, the Council devoted much of its time during 1988 to assisting the President in formulating economic policy objectives and designing programs to achieve them. In this regard, the Chairman kept the President informed on a continuing basis of important macroeconomic developments and advised the President and senior Administration officials on major policy issues. Special attention was devoted to developments, following the 1987 stock market crash, especially monetary developments; conditions in the thrift industry; and securities market regulation.

The Council chaired an interagency forecasting group, which included representatives from the Department of the Treasury and the Office of Management and Budget. This group developed the economic forecast and projections which the Chairman presented to the President and were used in the 1990 budget.

The Chairman, Council Members, and staff participated in discussions of macroeconomic issues within the Administration at various levels including the Cabinet level. The Council also participated in discussions of macroeconomic policies with outside agencies.

INTERNATIONAL ECONOMIC POLICIES

The Chairman briefed the President and senior White House staff on a number of international economic issues, including briefings in preparation for the Toronto Economic Summit. The Chairman continued to serve as Chairman of the Economic Policy Committee of the Organization for Economic Cooperation and Development (OECD). The Council also continued in its role as the head of the U.S. delegation to the Working Party on structural change and domestic issues. In these roles the Council made substantial progress in helping the nations of Europe to recognize the costs of market restrictions on their economies. OECD has made structural reform a major item on its economic agenda. Similar talks with the Japanese Economic Planning Agency have also focused on structural reform and macroeconomic policies.

The Council also played an active role in interagency trade organizations. Issues that received special attention this year included the Canadian Free-Trade Agreement, the Omnibus Trade bill, the Uruguay Round of GATT negotiations, international telecommunications policy, agricultural subsidies, and high definition television.

DOMESTIC MICROECONOMIC POLICIES

A wide variety of domestic microeconomic issues received attention during the year. The Chairman actively participated in the Cabinet-level Domestic Policy Council and Economic Policy Council, dealing with such issues as the international agreement on chlorofluorocarbons, space commercialization, and the deregulation of natural gas and electricity markets. The Council continued to chair the working groups on Privatization and Corporate Sentencing. The Council continued its membership on the Vice President's Task Force on Regulatory Relief, and its membership on the interagency working groups on Acid Rain, Global Warming, and Immigration Reform.

The Chairman and Members were also active participants in discussions of a number of labor issues during the past year. Issues which received special attention included the minimum wage, child care, and mandatory health insurance.

PUBLIC INFORMATION

The Council's *Annual Report* is the principal medium through which the Council informs the public of its work and its views. It is an important vehicle for presenting the Administration's domestic and international economic policies. Annual distribution of the *Report* in recent years has averaged about 45,000 copies. The Council assumes primary responsibility for the monthly *Economic Indicators*, which is issued by the Joint Economic Committee of the Congress and has a

distribution of approximately 10,000. Information is also provided to the public through speeches, testimony, press briefings, and other public appearances by the Council Chairman, Members, and senior staff. The Council also provided review and support for a number of publications, including the *White House Economic Bulletin*.

ORGANIZATION AND STAFF OF THE COUNCIL

OFFICE OF THE CHAIRMAN

The Chairman is responsible for communicating the Council's views to the President through personal discussions and written reports on economic developments. The Chairman also represents the Council at Cabinet meetings, meetings of the Economic Policy Council and Domestic Policy Council, daily White House senior staff meetings, weekly issues lunches with the President, and at many other formal and informal meetings with the President and senior White House staff, as well as with other senior government officials. The Chairman guides and oversees the work of the Council and exercises ultimate responsibility for directing the work of the Members and the professional staff.

COUNCIL MEMBERS

Members of the Council are involved in the full range of issues within the Council's purview, and are responsible for the daily supervision of the work of the professional staff. Members represent the Council at a wide variety of interagency and international meetings and assume major responsibility for selecting issues for Council attention.

The small size of the Council permits the Chairman and Members to work as a team on most policy issues. There continued to be, however, an informal division of subject matter. Dr. Moore has been primarily responsible for domestic and international microeconomic and sectoral analysis and regulatory issues. Dr. Mussa was primarily responsible for domestic and international macroeconomic analysis and economic projections. After Dr. Mussa's departure, Dr. Meltzer, in his role as consultant, took over these duties as well as a major responsibility for the Council's *Annual Report*.

PROFESSIONAL STAFF

The professional staff of the Council consists of the Special Assistant, the Senior Statistician, 10 senior staff economists, 2 staff economists, 3 junior staff economists, 2 associate junior staff economists, and 1 research assistant. The professional staff and their respective areas of concentration at the end of 1988 were:

Special Assistant to the Chairman

J. Steven Landefeld

Senior Staff Economists

James N. Brown	Microeconomics and Labor
Gregory S. Crespi	Law and Economics
Lauren J. Feinstone	International Macroeconomics
Robert W. Hahn	Regulation and Banking
David N. Hyman	Public Finance and Fiscal Policy
Carole E. Kitti	Microeconomics and Science and Technology
Kim J. Kowalewski	Macroeconomics and Monetary Policy
Harvey E. Lapan	International Trade and Macroeconomics
Daniel A. Sumner	Agriculture and Labor
Peter M. Taylor	Macroeconomics and Forecasting

Senior Statistician

Catherine H. Furlong

Staff Economists

Ellen E. Hanak	International Trade and Finance
John A. Hird	Regulation and Public Finance

Junior Staff Economists

Marcel M. Cassard	International Macroeconomics and Finance
Kenneth R. Richards	Energy, Environment, Law, and Regulation
Robert J. Scheinerman	Labor and Macroeconomics

Associate Junior Staff Economists

Theodore G. Bernard	Macroeconomics and Monetary Policy
William A. Teichner	Macroeconomics, Forecasting, and Public Finance

Research Assistant

Jonathan A. Parker	Macroeconomics, Fiscal Policy, and Forecasting

David N. Hyman, North Carolina State University, also served as a consultant during the fall of 1988. H. Steven Plous, Georgetown University, served as a part-time research assistant during 1988, and James DeNaut, Harvard Business School, served as a research assistant during the summer of 1988.

Catherine H. Furlong manages the Statistical Office assisted by Natalie V. Rentfro, Linda A. Reilly, and Margaret L. Snyder. They administer the Council's statistical information system, overseeing the

publication of the *Economic Indicators* and the statistical appendix to the *Economic Report*, as well as the verification of statistics in memoranda, testimony, and speeches.

Joseph Foote provided editorial assistance in the preparation of the 1989 *Economic Report*.

Three former staff members returned to assist in the preparation of the 1989 *Report*: Richard H. Clarida (senior staff economist), Kimberly A. Dale (student assistant), and Dorothy Bagovich (statistical assistant). Melissa B. Silverstein (student assistant) joined the Council to assist in the *Report*.

SUPPORTING STAFF

The Administrative Office, which provides general support for the Council's activities, consists of Elizabeth A. Kaminski, Administrative Officer, and Catherine Fibich, Administrative Assistant.

The secretaries for the Council of Economic Advisers during 1988 were Lisa D. Branch, Sandra F. Daigle, Gerardo Garcia, Mary E. Jones, Francine P. Obermiller, Suzanne M. Tudor, Janet J. Twyman, and Alice H. Williams.

DEPARTURES

Margot E. Machol, who served as Chairman Sprinkel's Special Assistant throughout his tenure, resigned this year. Ms. Machol departed to accept an appointment by the President as a Commissioner of the Federal Trade Commission.

The Council's senior staff economists, in most cases, are on leave of absence from faculty positions at academic institutions or from other government agencies or research institutions. Their tenure with the Council is usually limited to 1 or 2 years. Most of the senior staff economists who resigned during the year returned to their previous affiliations. They are: Deborah J. Danker (Board of Governors of the Federal Reserve System), Earl L. Grinols (University of Illinois at Urbana-Champaign), Craig S. Hakkio (Federal Reserve Bank of Kansas City), and Robert J. LaLonde (University of Chicago). Others went on to new positions: They are Arlene S. Holen (Office of Management and Budget) and Thomas A. Smith (Covington & Burling).

Junior staff economists generally are graduate students who spend 1 year with the Council and then return to complete their dissertations. Those who returned to their graduate studies in 1988 are: Lesley A. Cameron (University of Maryland), Andrew J. Filardo (University of Chicago), Julie Ann Hewitt (University of California at Berkeley), Randall S. Kroszner (Harvard University), and Scott D. Schuh (Johns Hopkins University). Peter H. Barlerin joined the Department of State.

Deborah D. Miller, Statistical Office, resigned in 1988. In addition, Kimberly A. Dale served as a student aide during the summer.

Appendix B
STATISTICAL TABLES RELATING TO INCOME, EMPLOYMENT, AND PRODUCTION

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General Notes

Detail in these tables may not add to totals because of rounding.
Unless otherwise noted, all dollar figures are in current dollars.
Symbols used:

[p] Preliminary.

— —Not available (also, not applicable).

Data in these tables reflect revisions made by the source agencies during 1988.

NATIONAL INCOME OR EXPENDITURE

TABLE B-1.—*Gross national product, 1929–88*

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment						
							Fixed investment					Change in business inventories
								Nonresidential			Residential	
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment		
1929	103.9	77.3	9.2	37.7	30.4	16.7	14.9	11.0	5.5	5.5	4.0	1.7
1933	56.0	45.8	3.5	22.3	20.1	1.6	3.1	2.5	1.1	1.4	.6	−1.6
1939	91.3	67.0	6.7	35.1	25.2	9.5	9.1	6.1	2.2	3.9	3.0	.4
1940	100.4	71.0	7.8	37.0	26.2	13.4	11.2	7.7	2.6	5.2	3.5	2.2
1941	125.5	80.8	9.7	42.9	28.3	18.3	13.8	9.7	3.3	6.4	4.1	4.5
1942	159.0	88.6	6.9	50.8	31.0	10.3	8.5	6.3	2.2	4.1	2.2	1.8
1943	192.7	99.5	6.5	58.6	34.3	6.2	6.9	5.4	1.8	3.7	1.4	−.6
1944	211.4	108.2	6.7	64.3	37.2	7.7	8.7	7.4	2.4	5.0	1.4	−1.0
1945	213.4	119.6	8.0	71.9	39.7	11.3	12.3	10.6	3.3	7.3	1.7	−1.0
1946	212.4	143.9	15.8	82.7	45.4	31.5	25.1	17.3	7.4	9.9	7.8	6.4
1947	235.2	161.9	20.4	90.9	50.6	35.0	35.5	23.5	8.1	15.3	12.1	−.5
1948	261.6	174.9	22.9	96.6	55.5	47.1	42.4	26.8	9.5	17.3	15.6	4.7
1949	260.4	178.3	25.0	94.9	58.4	36.5	39.5	24.9	9.2	15.7	14.6	−3.1
1950	288.3	192.1	30.8	98.2	63.2	55.1	48.3	27.8	10.0	17.8	20.5	6.8
1951	333.4	208.1	29.9	109.2	69.0	60.5	50.2	31.8	11.9	19.9	18.4	10.2
1952	351.6	219.1	29.3	114.7	75.1	53.5	50.5	31.9	12.2	19.7	18.6	3.1
1953	371.6	232.6	32.7	117.8	82.1	54.9	54.5	35.1	13.6	21.5	19.4	.4
1954	372.5	239.8	32.1	119.7	88.0	54.1	55.7	34.7	13.9	20.8	21.1	−1.6
1955	405.9	257.9	38.9	124.7	94.3	69.7	64.0	39.0	15.2	23.9	25.0	5.7
1956	428.2	270.6	38.2	130.8	101.6	72.7	68.0	44.5	18.2	26.3	23.5	4.6
1957	451.0	285.3	39.7	137.1	108.5	71.1	69.7	47.5	18.9	28.6	22.2	1.4
1958	456.8	294.6	37.2	141.7	115.7	63.6	65.1	42.4	17.5	24.9	22.7	−1.5
1959	495.8	316.3	42.8	148.5	125.0	80.2	74.4	46.3	18.0	28.3	28.1	5.8
1960	515.3	330.7	43.5	153.2	134.0	78.2	75.1	48.8	19.2	29.7	26.3	3.1
1961	533.8	341.1	41.9	157.4	141.8	77.1	74.7	48.3	19.4	28.9	26.4	2.4
1962	574.6	361.9	47.0	163.8	151.1	87.6	81.5	52.5	20.5	32.1	29.0	6.1
1963	606.9	381.7	51.8	169.4	160.6	93.1	87.3	55.2	20.8	34.4	32.1	5.8
1964	649.8	409.3	56.8	179.7	172.8	99.6	94.2	61.4	22.7	38.7	32.8	5.4
1965	705.1	440.7	63.5	191.9	185.4	116.2	106.2	73.1	27.4	45.8	33.1	9.9
1966	772.0	477.3	68.5	208.5	200.3	128.6	114.4	83.5	30.5	53.0	30.9	14.2
1967	816.4	503.6	70.6	216.9	216.0	125.7	115.4	84.4	30.7	53.7	31.1	10.3
1968	892.7	552.5	81.0	235.0	236.4	137.0	129.1	91.4	32.9	58.5	37.7	7.9
1969	963.9	597.9	86.2	252.2	259.4	153.2	143.4	102.3	37.1	65.2	41.2	9.8
1970	1,015.5	640.0	85.7	270.3	284.0	148.8	145.7	105.2	39.2	66.1	40.5	3.1
1971	1,102.7	691.6	97.6	283.3	310.7	172.5	164.7	109.6	40.9	68.7	55.1	7.8
1972	1,212.8	757.6	111.2	305.1	341.3	202.0	191.5	123.0	44.5	78.5	68.6	10.5
1973	1,359.3	837.2	124.7	339.6	373.0	238.8	219.2	145.9	51.4	94.5	73.3	19.6
1974	1,472.8	916.5	123.8	380.9	411.9	240.8	225.4	160.6	57.0	103.6	64.8	15.4
1975	1,598.4	1,012.8	135.4	416.2	461.2	219.6	225.2	162.9	56.3	106.6	62.3	−5.6
1976	1,782.8	1,129.3	161.5	452.0	515.9	277.7	261.7	180.0	60.1	119.9	81.7	16.0
1977	1,990.5	1,257.2	184.5	490.4	582.3	344.1	322.8	214.2	66.7	147.4	108.6	21.3
1978	2,249.7	1,403.5	205.6	541.8	656.1	416.8	388.2	259.0	81.0	178.0	129.2	28.6
1979	2,508.2	1,566.8	219.0	613.2	734.6	454.8	441.9	302.8	99.5	203.3	139.1	13.0
1980	2,732.0	1,732.6	219.3	681.4	831.9	437.0	445.3	322.8	113.9	208.9	122.5	−8.3
1981	3,052.6	1,915.1	239.9	740.6	934.7	515.5	491.5	369.2	138.5	230.7	122.3	24.0
1982	3,166.0	2,050.7	252.7	771.0	1,027.0	447.3	471.8	366.7	143.3	223.4	105.1	−24.5
1983	3,405.7	2,234.5	289.1	816.7	1,128.7	502.3	509.4	356.9	124.0	232.8	152.5	−7.1
1984	3,772.2	2,430.5	335.5	867.3	1,227.6	664.8	597.1	416.0	141.1	274.9	181.1	67.7
1985	4,014.9	2,629.0	372.2	911.2	1,345.6	643.1	631.8	442.9	153.2	289.7	188.8	11.3
1986	4,240.3	2,807.5	406.5	943.6	1,457.3	665.9	650.4	433.9	138.5	295.4	216.6	15.5
1987	4,526.7	3,012.1	421.9	997.9	1,592.3	712.9	673.7	446.8	139.5	307.3	226.9	39.2
1982: IV	3,212.5	2,117.0	263.8	786.6	1,066.5	409.6	469.5	354.9	137.6	217.3	114.7	−59.9
1983: IV	3,545.8	2,315.8	310.0	837.9	1,167.9	579.8	548.8	383.9	127.4	256.5	164.9	31.0
1984: IV	3,851.8	2,493.4	346.7	879.6	1,267.1	661.8	616.8	435.0	146.6	288.4	181.8	45.0
1985: IV	4,107.9	2,700.4	373.2	932.7	1,394.5	654.1	646.8	451.3	155.9	295.5	195.5	7.2
1986: I	4,180.4	2,739.0	381.4	938.4	1,419.2	686.6	642.6	438.9	151.1	287.8	203.6	44.0
II	4,207.6	2,772.1	393.0	937.2	1,441.9	667.8	648.3	431.9	136.1	295.7	216.4	19.5
III	4,268.4	2,842.8	429.9	944.7	1,468.2	653.0	652.3	430.6	132.0	298.5	221.8	.7
IV	4,304.6	2,876.0	421.8	954.1	1,500.1	656.4	658.4	434.1	134.6	299.4	224.4	−2.0
1987: I	4,391.8	2,921.7	403.5	977.5	1,540.7	685.5	647.8	422.8	132.7	290.1	225.0	37.7
II	4,484.2	2,992.2	420.5	995.3	1,576.4	698.5	665.8	438.2	134.4	303.8	227.6	32.7
III	4,568.0	3,058.2	441.4	1,006.6	1,610.2	702.8	688.3	462.1	143.0	319.1	226.2	14.5
IV	4,662.8	3,076.3	422.0	1,012.4	1,641.9	764.9	692.9	464.1	147.7	316.3	228.8	72.0
1988: I	4,724.5	3,128.1	437.8	1,016.2	1,674.1	763.4	698.1	471.5	140.1	331.3	226.6	65.3
II	4,823.8	3,194.6	449.8	1,036.6	1,708.2	758.1	714.4	487.8	142.3	345.5	226.5	43.7
III	4,909.0	3,261.2	452.9	1,060.8	1,747.5	772.5	722.8	493.7	143.8	349.9	229.1	49.7

See next page for continuation of table.

TABLE B–1.—*Gross national product, 1929–88*—Continued

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services			Government purchases of goods and services					Final sales	Gross domestic purchases [1]	Percent change from preceding period		
	Net exports	Exports	Imports	Total	Federal			State and local			Gross national product	Final sales	Gross domestic purchases [1]
					Total	National defense	Non-defense						
1929	1.1	7.1	5.9	8.9	1.5			7.4	102.2	102.8			
1933	.4	2.4	2.1	8.3	2.2			6.1	57.6	55.7	−4.2	−5.5	−4.2
1939	1.2	4.6	3.4	13.6	5.2	1.3	3.9	8.3	90.9	90.1	7.0	5.4	7.3
1940	1.8	5.4	3.7	14.2	6.1	2.3	3.9	8.1	98.3	98.7	10.0	8.1	9.5
1941	1.5	6.1	4.7	25.0	17.0	13.8	3.2	8.0	121.0	124.1	25.0	23.2	25.7
1942	.2	5.0	4.8	59.9	52.0	49.4	2.6	7.8	157.2	158.8	26.6	29.9	28.0
1943	−1.9	4.6	6.5	88.9	81.4	79.8	1.6	7.5	193.4	194.6	21.2	23.0	22.6
1944	−1.7	5.5	7.2	97.1	89.4	87.5	2.0	7.6	212.3	213.0	9.7	9.8	9.5
1945	−.5	7.4	7.9	83.0	74.8	73.7	1.1	8.2	214.4	213.9	.9	1.0	.4
1946	7.8	15.2	7.3	29.1	19.2	16.4	2.8	9.9	206.0	204.5	−.5	−3.9	−4.4
1947	11.9	20.3	8.3	26.4	13.6	10.0	3.6	12.8	235.7	223.3	10.8	14.4	9.2
1948	7.0	17.5	10.6	32.6	17.3	11.3	6.0	15.3	256.9	254.7	11.2	9.0	14.0
1949	6.5	16.4	9.8	39.0	21.1	13.9	7.2	18.0	263.4	253.8	−.5	2.5	−.3
1950	2.2	14.5	12.3	38.8	19.1	14.3	4.7	19.8	281.4	286.0	10.7	6.8	12.7
1951	4.5	19.8	15.3	60.4	38.6	33.8	4.8	21.8	323.2	329.0	15.7	14.8	15.0
1952	3.2	19.2	16.0	75.8	52.7	46.2	6.5	23.1	348.6	348.4	5.5	7.9	5.9
1953	1.3	18.1	16.8	82.8	57.9	49.0	8.9	24.8	371.1	370.3	5.7	6.5	6.3
1954	2.6	18.8	16.3	76.0	48.4	41.6	6.8	27.7	374.1	370.0	.2	.8	−.1
1955	3.0	21.1	18.1	75.3	44.9	39.0	6.0	30.3	400.2	402.9	9.0	7.0	8.9
1956	5.3	25.2	19.9	79.7	46.4	40.7	5.7	33.3	423.6	422.9	5.5	5.8	5.0
1957	7.3	28.2	20.9	87.3	50.5	44.6	5.9	36.9	449.6	443.7	5.3	6.1	4.9
1958	3.3	24.4	21.1	95.4	54.5	46.3	8.3	40.8	458.3	453.5	1.3	1.9	2.2
1959	1.5	25.0	23.5	97.9	54.6	46.4	8.2	43.3	490.0	494.3	8.5	6.9	9.0
1960	5.9	29.9	24.0	100.6	54.4	45.3	9.2	46.1	512.3	509.4	3.9	4.6	3.1
1961	7.2	31.1	23.9	108.4	58.2	47.9	10.2	50.2	531.4	526.6	3.6	3.7	3.4
1962	6.9	33.1	26.2	118.2	64.6	52.1	12.6	53.5	568.5	567.7	7.6	7.0	7.8
1963	8.2	35.7	27.5	123.8	65.7	51.5	14.2	58.1	601.1	598.7	5.6	5.7	5.5
1964	10.9	40.5	29.6	130.0	66.4	50.4	16.0	63.5	644.4	638.9	7.1	7.2	6.7
1965	9.7	42.9	33.2	138.6	68.7	51.0	17.7	69.9	695.2	695.4	8.5	7.9	8.8
1966	7.5	46.6	39.1	158.6	80.4	62.0	18.3	78.2	757.8	764.5	9.5	9.0	9.9
1967	7.4	49.5	42.1	179.7	92.7	73.4	19.3	87.0	806.1	809.0	5.8	6.4	5.8
1968	5.5	54.8	49.3	197.7	100.1	79.1	21.0	97.6	884.8	887.2	9.3	9.8	9.7
1969	5.6	60.4	54.7	207.3	100.0	78.9	21.1	107.2	954.1	958.3	8.0	7.8	8.0
1970	8.5	68.9	60.5	218.2	98.8	76.8	22.0	119.4	1,012.3	1,007.0	5.4	6.1	5.1
1971	6.3	72.4	66.1	232.4	99.8	74.1	25.8	132.5	1,094.9	1,096.4	8.6	8.2	8.9
1972	3.2	81.4	78.2	250.0	105.8	77.4	28.4	144.2	1,202.3	1,209.6	10.0	9.8	10.3
1973	16.8	114.1	97.3	266.5	106.7	77.5	29.9	160.1	1,339.7	1,343.5	12.1	11.4	11.0
1974	16.3	151.5	135.2	299.1	116.2	82.1	33.6	182.9	1,457.4	1,456.5	8.3	8.8	8.5
1975	31.1	161.3	130.3	335.0	129.2	89.6	39.6	205.9	1,604.1	1,567.4	8.5	10.1	7.6
1976	18.8	177.7	158.9	356.9	136.3	93.4	42.9	220.6	1,766.8	1,764.0	11.5	10.1	12.5
1977	1.9	191.6	189.7	387.3	151.1	100.9	50.3	236.2	1,969.2	1,988.6	11.7	11.5	12.7
1978	4.1	227.5	223.4	425.2	161.8	108.9	52.9	263.4	2,221.0	2,245.6	13.0	12.8	12.9
1979	18.8	291.2	272.5	467.8	178.0	121.9	56.1	289.9	2,495.2	2,489.4	11.5	12.3	10.9
1980	32.1	351.0	318.9	530.3	208.1	142.7	65.4	322.2	2,740.3	2,699.8	8.9	9.8	8.5
1981	33.9	382.8	348.9	588.1	242.2	167.5	74.8	345.9	3,028.6	3,018.7	11.7	10.5	11.8
1982	26.3	361.9	335.6	641.7	272.7	193.9	78.9	369.0	3,190.5	3,131.7	3.7	5.3	4.0
1983	−6.1	352.5	358.7	675.0	283.5	214.4	69.1	391.5	3,412.8	3,411.8	7.6	7.0	8.7
1984	−58.9	383.5	442.4	735.9	310.5	234.3	76.2	425.3	3,704.5	3,831.1	10.8	8.5	12.3
1985	−78.0	370.9	448.9	820.8	355.2	259.1	96.0	465.6	4,003.6	4,092.8	6.4	8.1	6.8
1986	−104.4	378.4	482.8	871.2	366.2	277.5	88.7	505.0	4,224.7	4,344.7	5.6	5.5	6.2
1987	−123.0	428.0	551.1	924.7	382.0	295.3	86.7	542.8	4,487.5	4,649.7	6.8	6.2	7.0
1982: IV	14.1	335.9	321.9	671.8	293.2	205.4	87.7	378.7	3,272.4	3,198.5	4.2	11.0	4.3
1983: IV	−25.8	364.7	390.5	676.1	276.1	221.5	54.6	400.0	3,514.8	3,571.6	12.4	7.8	13.1
1984: IV	−67.9	385.7	453.6	764.5	326.0	244.1	81.9	438.5	3,806.8	3,919.7	4.7	7.0	5.5
1985: IV	−103.2	369.2	472.4	856.7	376.6	268.6	108.0	480.1	4,100.7	4,211.2	6.2	5.5	8.3
1986: I	−93.0	376.9	469.9	847.8	356.6	266.8	89.9	491.2	4,136.5	4,273.4	7.2	3.5	6.0
II	−101.2	373.9	475.1	868.8	368.7	277.2	91.5	500.2	4,188.1	4,308.7	2.6	5.1	3.3
III	−109.1	377.8	486.9	881.8	372.7	288.0	84.7	509.1	4,267.7	4,377.6	5.9	7.8	6.6
IV	−114.3	385.2	499.4	886.5	366.7	278.1	88.7	519.7	4,306.6	4,418.9	3.4	3.7	3.8
1987: I	−119.1	395.3	514.4	903.8	372.7	287.3	85.4	531.1	4,354.1	4,510.9	8.4	4.5	8.6
II	−122.2	416.8	539.0	915.7	377.5	294.8	82.6	538.2	4,451.5	4,606.3	8.7	9.3	8.7
III	−125.2	440.4	565.6	932.2	386.3	299.8	86.4	546.0	4,553.5	4,693.2	7.7	9.5	7.8
IV	−125.7	459.7	585.4	947.3	391.4	299.2	92.2	555.9	4,590.7	4,788.4	8.6	3.3	8.4
1988: I	−112.1	487.8	599.9	945.2	377.7	298.4	79.3	567.5	4,659.2	4,836.6	5.4	6.1	4.1
II	−90.4	507.1	597.5	961.6	382.2	298.8	83.4	579.4	4,780.1	4,914.2	8.7	10.8	6.6
III	−80.0	536.1	616.0	955.3	367.7	294.3	73.4	587.6	4,859.3	4,989.0	7.3	6.8	6.2

[1] Gross national product (GNP) less exports of goods and services plus imports of goods and services.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–2.—*Gross national product in 1982 dollars, 1929–88*

[Billions of 1982 dollars; except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment						
							Fixed investment					Change in business inventories
								Nonresidential				
		Total	Durable goods	Nondurable goods	Services	Total	Total	Total	Structures	Producers' durable equipment	Residential	
1929	709.6	471.4	40.3	211.4	219.7	139.2	128.4	93.0	54.7	38.4	35.4	10.8
1933	498.5	378.7	20.7	181.8	176.2	22.7	33.5	25.8	14.3	11.5	7.7	−10.7
1939	716.6	480.5	35.7	248.0	196.7	86.0	82.1	53.2	25.2	28.0	28.9	3.9
1940	772.9	502.6	40.6	259.4	202.7	111.8	97.4	65.0	28.5	36.5	32.5	14.4
1941	909.4	531.1	46.2	275.6	209.3	138.8	111.1	76.6	33.4	43.2	34.4	27.8
1942	1,080.3	527.6	31.3	279.1	217.2	76.7	64.7	47.4	20.9	26.5	17.3	12.0
1943	1,276.2	539.9	28.1	284.7	227.2	50.4	49.7	39.4	15.6	23.8	10.4	.7
1944	1,380.6	557.1	26.3	297.9	232.9	56.4	61.6	52.6	20.4	32.1	9.0	−5.2
1945	1,354.8	592.7	28.7	323.5	240.5	76.5	84.9	74.2	27.0	47.2	10.7	−8.4
1946	1,096.9	655.0	47.8	344.2	262.9	178.1	150.2	105.5	50.9	54.7	44.7	27.9
1947	1,066.7	686.6	56.5	337.4	272.6	177.9	178.9	121.7	47.5	74.2	57.2	−1.0
1948	1,108.7	681.8	61.7	338.7	281.4	208.2	196.0	127.4	50.5	76.9	68.6	12.3
1949	1,109.0	695.4	67.8	342.3	285.3	168.8	178.4	114.8	49.3	65.5	63.6	−9.7
1950	1,203.7	733.2	80.7	352.8	299.8	234.9	210.8	124.0	52.8	71.2	86.7	24.2
1951	1,328.2	748.7	74.7	362.9	311.1	235.2	204.3	131.7	56.5	75.2	72.6	30.8
1952	1,380.0	771.4	73.0	376.6	321.9	211.8	201.8	130.6	57.3	73.3	71.2	10.0
1953	1,435.3	802.5	80.2	388.2	334.1	216.6	213.8	140.1	62.3	77.7	73.8	2.8
1954	1,416.2	822.7	81.5	393.8	347.4	212.6	217.3	137.5	64.9	72.7	79.8	−4.8
1955	1,494.9	873.8	96.9	413.2	363.6	259.8	243.5	151.0	69.4	81.7	92.4	16.3
1956	1,525.6	899.8	92.8	426.9	380.1	257.8	244.9	160.4	75.5	84.9	84.4	12.9
1957	1,551.1	919.7	92.4	434.7	392.6	243.4	240.4	161.1	75.2	85.9	79.3	3.0
1958	1,539.2	932.9	86.9	439.9	406.1	221.4	224.8	143.9	70.6	73.3	81.0	−3.4
1959	1,629.1	979.4	96.9	455.8	426.7	270.3	253.8	153.6	71.9	81.7	100.2	16.5
1960	1,665.3	1,005.1	98.0	463.3	443.9	260.5	252.7	159.4	76.1	83.3	93.3	7.7
1961	1,708.7	1,025.2	93.6	470.1	461.4	259.1	251.8	158.2	77.7	80.5	93.6	7.3
1962	1,799.4	1,069.0	103.0	484.2	481.8	288.6	272.4	170.2	81.3	88.9	102.2	16.2
1963	1,873.3	1,108.4	111.8	494.3	502.3	307.1	290.5	176.6	81.6	95.1	113.9	16.6
1964	1,973.3	1,170.6	120.8	517.5	532.3	325.9	310.2	194.9	87.9	107.0	115.3	15.7
1965	2,087.6	1,236.4	134.6	543.2	558.5	367.0	341.8	227.6	101.8	125.8	114.2	25.2
1966	2,208.3	1,298.9	144.4	569.3	585.3	390.5	353.7	250.4	108.0	142.4	103.2	36.9
1967	2,271.4	1,337.7	146.2	579.2	612.3	374.4	345.6	245.0	105.4	139.6	100.6	28.8
1968	2,365.6	1,405.9	161.6	602.4	641.8	391.8	370.7	254.5	108.0	146.5	116.2	21.0
1969	2,423.3	1,456.7	167.8	617.2	671.7	410.3	385.1	269.7	112.9	156.8	115.4	25.1
1970	2,416.2	1,492.0	162.5	632.5	697.0	381.5	373.3	264.0	111.1	152.9	109.3	8.2
1971	2,484.8	1,538.8	178.3	640.3	720.2	419.3	399.7	258.4	107.3	151.0	141.3	19.6
1972	2,608.5	1,621.9	200.4	665.5	756.0	465.4	443.7	277.0	109.5	167.5	166.6	21.8
1973	2,744.1	1,689.6	220.3	683.2	786.1	520.8	480.8	317.3	117.7	199.6	163.4	40.0
1974	2,729.3	1,674.0	204.9	666.1	803.1	481.3	448.0	317.8	115.2	202.7	130.2	33.3
1975	2,695.0	1,711.9	205.6	676.5	829.8	383.3	396.1	281.2	102.8	178.4	114.9	−12.8
1976	2,826.7	1,803.9	232.3	708.8	862.8	453.5	431.4	290.6	104.4	186.2	140.8	22.1
1977	2,958.6	1,883.8	253.9	731.4	898.5	521.3	492.2	324.0	108.3	215.7	168.1	29.1
1978	3,115.2	1,961.0	267.4	753.7	939.8	576.9	540.2	362.1	119.3	242.8	178.0	36.8
1979	3,192.4	2,004.4	266.5	766.6	971.2	575.2	560.2	389.4	130.6	258.8	170.8	15.0
1980	3,187.1	2,000.4	245.9	762.6	991.9	509.3	516.2	379.2	136.2	243.0	137.0	−6.9
1981	3,248.8	2,024.2	250.8	764.4	1,009.0	545.5	521.7	395.2	148.8	246.4	126.5	23.9
1982	3,166.0	2,050.7	252.7	771.0	1,027.0	447.3	471.8	366.7	143.3	223.4	105.1	−24.5
1983	3,279.1	2,146.0	283.1	800.2	1,062.7	504.0	510.4	361.2	127.2	233.9	149.3	−6.4
1984	3,501.4	2,249.3	323.1	825.9	1,100.3	658.4	596.1	425.2	143.8	281.4	170.9	62.3
1985	3,618.7	2,354.8	355.1	847.4	1,152.3	637.0	627.9	453.5	149.5	304.0	174.4	9.1
1986	3,721.7	2,455.2	385.0	879.5	1,190.7	643.5	628.1	433.1	129.3	303.8	195.0	15.4
1987	3,847.0	2,521.0	390.9	890.5	1,239.5	674.8	640.4	445.1	125.5	319.6	195.2	34.4
1982: IV	3,159.3	2,078.7	262.0	778.6	1,038.1	408.8	468.1	352.3	138.3	214.1	115.8	−59.3
1983: IV	3,365.1	2,191.9	300.5	812.7	1,078.6	577.2	550.3	390.4	131.6	258.8	159.9	27.0
1984: IV	3,535.2	2,281.1	333.1	831.2	1,116.8	655.7	614.0	444.4	147.1	297.3	169.6	41.7
1985: IV	3,662.4	2,386.9	356.4	858.3	1,172.2	648.0	640.4	460.9	149.9	311.1	179.4	7.7
1986: I	3,719.3	2,415.1	363.3	870.4	1,181.4	678.0	632.4	446.8	145.1	301.7	185.5	45.7
II	3,711.6	2,440.9	374.2	880.9	1,185.8	652.1	628.5	432.8	126.7	306.1	195.7	23.6
III	3,721.3	2,478.6	405.1	881.4	1,192.0	627.6	624.6	425.6	121.7	303.9	199.0	3.0
IV	3,734.7	2,486.2	397.3	885.3	1,203.6	616.5	627.0	427.3	123.8	303.5	199.7	−10.5
1987: I	3,776.7	2,490.2	378.3	889.9	1,222.0	646.4	616.6	418.2	121.0	297.2	198.4	29.8
II	3,823.0	2,516.6	391.3	889.8	1,235.5	660.1	632.3	434.8	120.9	313.8	197.6	27.8
III	3,865.3	2,545.2	406.5	891.9	1,246.8	667.9	654.9	462.8	128.0	334.7	192.1	13.0
IV	3,923.0	2,531.7	387.6	890.5	1,253.6	724.7	657.6	464.8	132.1	332.7	192.7	67.1
1988: I	3,956.1	2,559.8	401.1	892.7	1,265.9	728.9	662.9	473.4	124.0	349.4	189.5	66.0
II	3,985.2	2,579.0	410.6	893.6	1,274.8	715.1	679.7	490.2	125.0	365.1	189.6	35.3
III	4,009.4	2,603.8	410.4	904.5	1,288.9	726.1	686.6	495.0	125.8	369.2	191.6	39.5

See next page for continuation of table.

TABLE B–2.—*Gross national product in 1982 dollars, 1929–88*—Continued

[Billions of 1982 dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Net exports of goods and services			Government purchases of goods and services					Final sales	Gross domestic purchases [1]	Percent change from preceding period		
					Federal								
	Net exports	Exports	Imports	Total	Total	National defense	Nondefense	State and local			Gross national product	Final sales	Gross domestic purchases [1]
1929	4.7	42.1	37.4	94.2	18.3			75.9	698.7	704.9			
1933	−1.4	22.7	24.2	98.5	27.0			71.5	509.2	499.9	−2.1	−3.1	−1.9
1939	6.1	36.2	30.1	144.1	53.8			90.3	712.7	710.5	7.9	6.3	7.9
1940	8.2	40.0	31.7	150.2	63.6			86.6	758.5	764.6	7.8	6.4	7.6
1941	3.9	42.0	38.2	235.6	153.0			82.6	881.6	905.5	17.7	16.2	18.4
1942	−7.7	29.1	36.9	483.7	407.1			76.7	1,068.3	1,088.0	18.8	21.2	20.1
1943	−23.0	25.1	48.0	708.9	638.1			70.8	1,275.5	1,299.2	18.1	19.4	19.4
1944	−23.8	27.3	51.1	790.8	722.5			68.3	1,385.7	1,404.3	8.2	8.6	8.1
1945	−18.9	35.2	54.1	704.5	634.0			70.5	1,363.3	1,373.7	−1.9	−1.6	−2.2
1946	27.0	69.0	42.0	236.9	159.3			77.6	1,069.0	1,069.9	−19.0	−21.6	−22.1
1947	42.4	82.3	39.9	179.8	91.9			87.9	1,067.7	1,024.3	−2.8	−.1	−4.3
1948	19.2	66.2	47.1	199.5	106.1			93.4	1,096.4	1,089.5	3.9	2.7	6.4
1949	18.8	65.0	46.2	226.0	119.5			106.5	1,118.7	1,090.2	.0	2.0	.1
1950	4.7	59.2	54.6	230.8	116.7			114.2	1,179.5	1,199.0	8.5	5.4	10.0
1951	14.6	72.0	57.4	329.7	214.4			115.4	1,297.4	1,313.6	10.3	10.0	9.6
1952	6.9	70.1	63.3	389.9	272.7			117.3	1,370.0	1,373.1	3.9	5.6	4.5
1953	−2.7	66.9	69.7	419.0	295.9			123.1	1,432.5	1,438.0	4.0	4.6	4.7
1954	2.5	70.0	67.5	378.4	245.0			133.4	1,421.0	1,413.7	−1.3	−.8	−1.7
1955	.0	76.9	76.9	361.3	217.9			143.4	1,478.6	1,494.9	5.6	4.1	5.7
1956	4.3	87.9	83.6	363.7	215.4			148.3	1,512.7	1,521.3	2.1	2.3	1.8
1957	7.0	94.9	87.9	381.1	224.1			157.0	1,548.1	1,544.2	1.7	2.3	1.5
1958	−10.3	82.4	92.8	395.3	224.9			170.4	1,542.6	1,549.6	−.8	−.4	.4
1959	−18.2	83.7	101.9	397.7	221.5			176.2	1,612.6	1,647.3	5.8	4.5	6.3
1960	−4.0	98.4	102.4	403.7	220.6			183.1	1,657.5	1,669.3	2.2	2.8	1.3
1961	−2.7	100.7	103.3	427.1	232.9			194.2	1,701.4	1,711.3	2.6	2.6	2.5
1962	−7.5	106.9	114.4	449.4	249.3			200.1	1,783.3	1,807.0	5.3	4.8	5.6
1963	−1.9	114.7	116.6	459.8	247.8			212.0	1,856.7	1,875.3	4.1	4.1	3.8
1964	5.9	128.8	122.8	470.8	244.2			226.6	1,957.6	1,967.3	5.3	5.4	4.9
1965	−2.7	132.0	134.7	487.0	244.4			242.5	2,062.4	2,090.3	5.8	5.4	6.3
1966	−13.7	138.4	152.1	532.6	273.8			258.8	2,171.5	2,222.1	5.8	5.3	6.3
1967	−16.9	143.6	160.5	576.2	304.4			271.8	2,242.6	2,288.3	2.9	3.3	3.0
1968	−29.7	155.7	185.3	597.6	309.6			288.0	2,344.6	2,395.3	4.1	4.5	4.7
1969	−34.9	165.0	199.9	591.2	295.6			295.6	2,398.1	2,458.1	2.4	2.3	2.6
1970	−30.0	178.3	208.3	572.6	268.3			304.3	2,407.9	2,446.2	−.3	.4	−.5
1971	−39.8	179.2	218.9	566.5	250.6			315.9	2,465.2	2,524.6	2.8	2.4	3.2
1972	−49.4	195.2	244.6	570.7	246.0	185.3	60.7	324.7	2,586.8	2,658.0	5.0	4.9	5.3
1973	−31.5	242.3	273.8	565.3	230.0	171.0	59.1	335.3	2,704.1	2,775.7	5.2	4.5	4.4
1974	.8	269.1	268.4	573.2	226.4	163.3	63.1	346.8	2,696.0	2,728.5	−.5	−.3	−1.7
1975	18.9	259.7	240.8	580.9	226.3	161.1	65.2	354.6	2,707.8	2,676.1	−1.3	.4	−1.9
1976	−11.0	274.4	285.4	580.3	224.2	157.5	66.8	356.0	2,804.6	2,837.7	4.9	3.6	6.0
1977	−35.5	281.6	317.1	589.1	231.8	159.2	72.7	357.2	2,929.5	2,994.1	4.7	4.5	5.5
1978	−26.8	312.6	339.4	604.1	233.7	160.7	73.0	370.4	3,078.4	3,142.0	5.3	5.1	4.9
1979	3.6	356.8	353.2	609.1	236.2	164.3	71.9	373.0	3,177.4	3,188.8	2.5	3.2	1.5
1980	57.0	388.9	332.0	620.5	246.9	171.2	75.7	373.6	3,194.0	3,130.1	−.2	.5	−1.8
1981	49.4	392.7	343.4	629.7	259.6	180.3	79.3	370.1	3,225.0	3,199.4	1.9	1.0	2.2
1982	26.3	361.9	335.6	641.7	272.7	193.8	78.9	369.0	3,190.5	3,139.7	−2.5	−1.1	−1.9
1983	−19.9	348.1	368.1	649.0	275.1	206.9	68.2	373.9	3,285.5	3,299.1	3.6	3.0	5.1
1984	−84.0	371.8	455.8	677.7	290.8	218.5	72.3	387.0	3,439.1	3,585.4	6.8	4.7	8.7
1985	−104.3	367.2	471.4	731.2	326.0	237.2	88.8	405.2	3,609.6	3,723.0	3.4	5.0	3.8
1986	−137.5	378.4	515.9	760.5	333.4	251.4	82.0	427.1	3,706.3	3,859.3	2.8	2.7	3.7
1987	−128.9	427.8	556.7	780.2	339.0	264.9	74.1	441.2	3,812.6	3,975.9	3.4	2.9	3.0
1982: IV	11.7	336.0	324.3	660.1	289.5	201.4	88.2	370.6	3,218.6	3,147.6	.6	7.1	.6
1983: IV	−46.2	355.5	401.6	642.2	266.0	211.6	54.4	376.2	3,338.1	3,411.3	7.3	3.8	8.6
1984: IV	−94.8	376.6	471.4	693.2	300.5	225.3	75.2	392.7	3,493.5	3,630.0	1.7	4.0	2.7
1985: IV	−125.3	367.4	492.6	752.7	340.6	241.4	99.2	412.1	3,654.7	3,787.6	3.0	1.6	4.8
1986: I	−115.7	374.5	490.2	741.8	322.7	241.1	81.6	419.1	3,673.6	3,834.9	6.4	2.1	5.1
II	−140.2	372.1	512.4	758.8	333.6	250.8	82.8	425.2	3,688.0	3,851.8	−.8	1.6	1.8
III	−151.8	379.1	530.9	766.9	336.7	260.7	76.0	430.2	3,718.3	3,873.0	1.0	3.3	2.2
IV	−142.4	387.8	530.2	774.5	340.5	253.1	87.4	434.0	3,745.2	3,877.2	1.4	2.9	.4
1987: I	−132.8	394.9	527.7	772.9	334.0	257.0	77.0	438.9	3,746.9	3,909.5	4.6	.2	3.4
II	−126.0	416.4	542.3	772.2	332.1	264.8	67.3	440.1	3,795.2	3,949.0	5.0	5.3	4.1
III	−130.7	440.9	571.6	782.9	342.1	269.5	72.6	440.8	3,852.2	3,996.0	4.5	6.1	4.8
IV	−126.0	459.2	585.2	792.6	347.7	268.2	79.5	444.9	3,855.9	4,049.0	6.1	.4	5.4
1988: I	−109.0	486.2	595.1	776.4	327.8	264.6	63.2	448.7	3,890.1	4,065.1	3.4	3.6	1.6
II	−92.6	496.9	589.5	783.8	331.6	263.6	67.9	452.2	3,949.9	4,077.9	3.0	6.3	1.3
III	−93.9	514.0	607.9	773.5	320.1	256.4	63.7	453.4	3,969.9	4,103.4	2.5	2.0	2.5

[1] GNP less exports of goods and services plus imports of goods and services.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–3.—*Implicit price deflators for gross national product, 1929–88*

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Gross national product	Personal consumption expenditures				Gross private domestic investment [1]				
						Fixed investment				
							Nonresidential			
		Total	Durable goods	Nondurable goods	Services	Total	Total	Structures	Producers' durable equipment	Residential
1929	14.6	16.4	22.9	17.8	13.8	11.6	11.8	10.0	14.3	11.2
1933	11.2	12.1	16.8	12.2	11.4	9.4	9.8	7.6	12.5	8.1
1939	12.7	13.9	18.7	14.2	12.8	11.1	11.5	8.8	13.9	10.5
1940	13.0	14.1	19.2	14.3	12.9	11.5	11.9	9.0	14.2	10.9
1941	13.8	15.2	20.9	15.5	13.5	12.4	12.7	9.7	14.9	11.9
1942	14.7	16.8	22.0	18.2	14.3	13.2	13.3	10.7	15.3	12.8
1943	15.1	18.4	23.3	20.6	15.1	13.8	13.8	11.4	15.4	13.8
1944	15.3	19.4	25.4	21.6	16.0	14.2	14.0	11.6	15.6	14.9
1945	15.7	20.2	27.7	22.2	16.5	14.5	14.3	12.3	15.4	15.8
1946	19.4	22.0	33.0	24.0	17.3	16.7	16.4	14.5	18.2	17.5
1947	22.1	24.3	36.1	26.9	18.6	19.8	19.3	17.1	20.7	21.1
1948	23.6	25.7	37.1	28.5	19.7	21.7	21.0	18.9	22.5	22.8
1949	23.5	25.6	36.9	27.7	20.5	22.2	21.7	18.6	24.0	23.0
1950	23.9	26.2	38.1	27.8	21.1	22.9	22.4	18.8	25.0	23.7
1951	25.1	27.8	40.0	30.1	22.2	24.6	24.2	21.1	26.4	25.4
1952	25.5	28.4	40.1	30.5	23.3	25.0	24.4	21.3	26.9	26.1
1953	25.9	29.0	40.8	30.4	24.6	25.5	25.1	21.8	27.7	26.3
1954	26.3	29.1	39.4	30.4	25.3	25.6	25.2	21.4	28.6	26.4
1955	27.2	29.5	40.1	30.2	25.9	26.3	25.8	21.8	29.3	27.0
1956	28.1	30.1	41.2	30.6	26.7	27.8	27.7	24.1	31.0	27.9
1957	29.1	31.0	42.9	31.5	27.6	29.0	29.5	25.2	33.3	28.0
1958	29.7	31.6	42.8	32.2	28.5	28.9	29.5	24.8	34.0	28.0
1959	30.4	32.3	44.2	32.6	29.3	29.3	30.2	25.0	34.7	28.0
1960	30.9	32.9	44.4	33.1	30.2	29.7	30.6	25.2	35.6	28.2
1961	31.2	33.3	44.8	33.5	30.7	29.7	30.5	25.0	35.9	28.2
1962	31.9	33.9	45.7	33.8	31.4	29.9	30.9	25.2	36.1	28.3
1963	32.4	34.4	46.3	34.3	32.0	30.1	31.3	25.5	36.2	28.2
1964	32.9	35.0	47.0	34.7	32.5	30.4	31.5	25.9	36.2	28.5
1965	33.8	35.6	47.1	35.3	33.2	31.1	32.1	26.9	36.4	29.0
1966	35.0	36.7	47.5	36.6	34.2	32.4	33.3	28.2	37.2	29.9
1967	35.9	37.6	48.3	37.5	35.3	33.4	34.4	29.1	38.4	30.9
1968	37.7	39.3	50.1	39.0	36.8	34.8	35.9	30.4	39.9	32.5
1969	39.8	41.0	51.4	40.9	38.6	37.2	37.9	32.9	41.5	35.6
1970	42.0	42.9	52.7	42.7	40.7	39.0	39.9	35.2	43.2	37.0
1971	44.4	44.9	54.7	44.2	43.1	41.2	42.4	38.1	45.5	39.0
1972	46.5	46.7	55.5	45.8	45.1	43.2	44.4	40.6	46.8	41.2
1973	49.5	49.6	56.6	49.7	47.4	45.6	46.0	43.7	47.3	44.8
1974	54.0	54.8	60.4	57.2	51.3	50.3	50.5	49.5	51.1	49.8
1975	59.3	59.2	65.9	61.5	55.6	56.9	57.9	54.7	59.7	54.2
1976	63.1	62.6	69.5	63.8	59.8	60.7	61.9	57.6	64.4	58.0
1977	67.3	66.7	72.7	67.1	64.8	65.6	66.1	61.6	68.3	64.6
1978	72.2	71.6	76.9	71.9	69.8	71.9	71.5	67.9	73.3	72.6
1979	78.6	78.2	82.1	80.0	75.6	78.9	77.8	76.2	78.6	81.4
1980	85.7	86.6	89.2	89.4	83.9	86.3	85.1	83.6	86.0	89.4
1981	94.0	94.6	95.7	96.9	92.6	94.2	93.4	93.1	93.7	96.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.9	104.1	102.1	102.1	106.2	99.8	98.8	97.5	99.5	102.2
1984	107.7	108.1	103.8	105.0	111.6	100.2	97.9	98.2	97.7	106.0
1985	110.9	111.6	104.8	107.5	116.8	100.6	97.7	102.5	95.3	108.3
1986	113.9	114.3	105.6	107.3	122.4	103.5	100.2	107.1	97.2	111.1
1987	117.7	119.5	107.9	112.1	128.5	105.2	100.4	111.1	96.2	116.2
1982: IV	101.7	101.8	100.7	101.0	102.7	100.3	100.7	99.5	101.5	99.1
1983: IV	105.4	105.7	103.1	103.1	108.3	99.7	98.3	96.8	99.1	103.1
1984: IV	109.0	109.3	104.1	105.8	113.5	100.5	97.9	99.6	97.0	107.2
1985: IV	112.2	113.1	104.7	108.7	119.0	101.0	97.9	104.0	95.0	109.0
1986: I	112.4	113.4	105.0	107.8	120.1	101.6	98.2	104.1	95.4	109.8
II	113.4	113.6	105.0	106.4	121.6	103.2	99.8	107.5	96.6	110.6
III	114.7	114.7	106.1	107.2	123.2	104.4	101.2	106.5	98.2	111.4
IV	115.3	115.7	106.2	107.8	124.6	105.0	101.6	108.7	98.7	112.4
1987: I	116.3	117.3	106.7	109.8	126.1	105.1	101.1	109.6	97.6	113.4
II	117.3	118.9	107.5	111.9	127.6	105.3	100.8	111.2	96.8	115.2
III	118.2	120.2	108.6	112.9	129.1	105.1	99.9	111.7	95.3	117.7
IV	118.9	121.5	108.9	113.7	131.0	105.4	99.8	111.8	95.1	118.7
1988: I	119.4	122.2	109.1	113.8	132.2	105.3	99.6	113.0	94.8	119.5
II	121.0	123.9	109.6	116.0	134.0	105.1	99.5	113.8	94.6	119.5
III	122.4	125.2	110.4	117.3	135.6	105.3	99.7	114.3	94.8	119.6

See next page for continuation of table.

TABLE B–3.—*Implicit price deflators for gross national product, 1929–88*—Continued

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Exports and imports of goods and services [1]		Government purchases of goods and services					Final sales	Gross domestic purchases [2]	Percent change from preceding period, GNP implicit price deflator [3]
			Total	Federal			State and local			
	Exports	Imports		Total	National defense	Non-defense				
1929	16.8	15.9	9.4	8.1			9.7	14.6	14.6	
1933	10.7	8.6	8.4	8.0			8.6	11.3	11.1	−2.2
1939	12.7	11.3	9.4	9.7			9.2	12.8	12.7	−.8
1940	13.6	11.6	9.5	9.7			9.3	13.0	12.9	2.0
1941	14.6	12.3	10.6	11.1			9.7	13.7	13.7	6.2
1942	17.2	13.1	12.4	12.8			10.2	14.7	14.6	6.6
1943	18.5	13.6	12.5	12.8			10.6	15.2	15.0	2.6
1944	20.2	14.1	12.3	12.4			11.2	15.3	15.2	1.4
1945	21.1	14.6	11.8	11.8			11.6	15.7	15.6	2.9
1946	22.0	17.4	12.3	12.0			12.8	19.3	19.1	22.9
1947	24.6	20.9	14.7	14.8			14.5	22.1	21.8	13.9
1948	26.5	22.4	16.3	16.3			16.3	23.4	23.4	7.0
1949	25.2	21.2	17.3	17.6			16.9	23.5	23.3	−.5
1950	24.4	22.5	16.8	16.3			17.3	23.9	23.9	2.0
1951	27.4	26.7	18.3	18.0			18.9	24.9	25.0	4.8
1952	27.4	25.3	19.4	19.3			19.7	25.4	25.4	1.5
1953	27.0	24.1	19.8	19.6			20.2	25.9	25.8	1.6
1954	26.9	24.1	20.1	19.7			20.7	26.3	26.2	1.6
1955	27.5	23.5	20.8	20.6			21.2	27.1	27.0	3.2
1956	28.6	23.8	21.9	21.5			22.4	28.0	27.8	3.4
1957	29.7	23.8	22.9	22.5			23.5	29.0	28.7	3.6
1958	29.6	22.7	24.1	24.2			24.0	29.7	29.3	2.1
1959	29.9	23.1	24.6	24.6			24.6	30.4	30.0	2.4
1960	30.4	23.4	24.9	24.7			25.2	30.9	30.5	1.6
1961	30.9	23.1	25.4	25.0			25.9	31.2	30.8	1.0
1962	31.0	22.9	26.3	25.9			26.7	31.9	31.4	2.2
1963	31.1	23.6	26.9	26.5			27.4	32.4	31.9	1.6
1964	31.4	24.1	27.6	27.2			28.0	32.9	32.5	1.5
1965	32.5	24.7	28.5	28.1			28.8	33.7	33.3	2.7
1966	33.7	25.7	29.8	29.4			30.2	34.9	34.4	3.6
1967	34.5	26.2	31.2	30.5			32.0	35.9	35.4	2.6
1968	35.2	26.6	33.1	32.3			33.9	37.7	37.0	5.0
1969	36.6	27.4	35.1	33.8			36.3	39.8	39.0	5.6
1970	38.7	29.0	38.1	36.8			39.2	42.0	41.2	5.5
1971	40.4	30.2	41.0	39.8			41.9	44.4	43.4	5.7
1972	41.7	32.0	43.8	43.0	41.8	46.8	44.4	46.5	45.5	4.7
1973	47.1	35.5	47.1	46.2	45.3	48.9	47.8	49.5	48.4	6.5
1974	56.3	50.4	52.2	51.3	50.6	53.3	52.8	54.1	53.4	9.1
1975	62.1	54.1	57.7	57.1	55.6	60.6	58.1	59.2	58.6	9.8
1976	64.8	55.7	61.5	60.8	59.3	64.3	62.0	63.0	62.2	6.4
1977	68.0	59.8	65.8	65.2	63.4	69.1	66.1	67.2	66.4	6.7
1978	72.8	65.8	70.4	69.2	67.8	72.4	71.1	72.1	71.5	7.3
1979	81.6	77.1	76.8	75.4	74.2	78.0	77.7	78.5	78.1	8.9
1980	90.2	96.0	85.5	84.3	83.4	86.4	86.2	85.8	86.3	9.0
1981	97.5	101.6	93.4	93.3	92.9	94.3	93.4	93.9	94.4	9.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	6.4
1983	101.3	97.4	104.0	103.1	103.6	101.4	104.7	103.9	103.4	3.9
1984	103.2	97.1	108.6	106.8	107.2	105.5	109.9	107.7	106.9	3.7
1985	101.0	95.2	112.3	109.0	109.2	108.2	114.9	110.9	109.9	3.0
1986	100.0	93.6	114.6	109.8	110.4	108.2	118.2	114.0	112.6	2.7
1987	100.0	99.0	118.5	112.7	111.5	117.0	123.0	117.7	116.9	3.3
1982: IV	100.0	99.3	101.8	101.3	102.0	99.5	102.2	101.7	101.6	3.6
1983: IV	102.6	97.2	105.3	103.8	104.7	100.3	106.3	105.3	104.7	4.7
1984: IV	102.4	96.2	110.3	108.5	108.3	108.9	111.7	109.0	108.0	3.0
1985: IV	100.5	95.9	113.8	110.6	111.3	108.8	116.5	112.2	111.2	3.3
1986: I	100.6	95.9	114.3	110.5	110.6	110.1	117.2	112.6	111.4	.7
II	100.5	92.7	114.5	110.5	110.5	110.4	117.6	113.6	111.9	3.6
III	99.6	91.7	115.0	110.7	110.5	111.5	118.3	114.8	113.0	4.7
IV	99.3	94.2	114.5	107.7	109.9	101.5	119.7	115.0	114.0	2.1
1987: I	100.1	97.5	116.9	111.6	111.8	110.9	121.0	116.2	115.4	3.5
II	100.1	99.4	118.6	113.7	111.3	122.9	122.3	117.3	116.6	3.5
III	99.9	98.9	119.1	112.9	111.3	119.0	123.9	118.2	117.4	3.1
IV	100.1	100.0	119.5	112.6	111.6	116.0	124.9	119.1	118.3	2.4
1988: I	100.3	100.8	121.7	115.2	112.8	125.5	126.5	119.8	119.0	1.7
II	102.1	101.4	122.7	115.3	113.4	122.7	128.1	121.0	120.5	5.5
III	104.3	101.3	123.5	114.9	114.8	115.2	129.6	122.4	121.6	4.7

[1] Separate deflators are not calculated for gross private domestic investment, change in business inventories, and net exports of goods and services.

[2] GNP less exports of goods and services plus imports of goods and services.

[3] Quarterly changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–4.—*Fixed-weighted price indexes for gross national product, 1982 weights, 1959–88*

[Index numbers, 1982=100, except as noted; quarterly data seasonally adjusted]

Year or quarter	Gross national product	Personal consumption expenditures	Gross private domestic investment[1]			Exports and imports of goods and services[1]		Government purchases of goods and services					Percent change from preceding period, GNP fixed-weighted price index[2]
			Fixed investment					Total	Federal			State and local	
			Total	Nonresidential	Residential	Exports	Imports		Total	National defense	Nondefense		
1959	37.6	35.2	58.0	65.9	30.2	32.8	27.0	25.8	26.9			24.9	
1960	38.1	35.7	58.1	66.1	30.3	33.5	27.3	26.4	27.3			25.7	1.4
1961	38.4	36.1	58.0	66.0	30.2	34.0	27.0	27.0	27.8			26.4	.7
1962	38.7	36.4	58.0	66.1	29.9	34.1	26.7	27.8	28.4			27.3	.8
1963	39.1	36.8	58.0	66.2	29.5	34.4	27.1	28.5	29.3			27.9	1.0
1964	39.6	37.2	58.2	66.4	29.6	34.8	27.7	29.3	30.1			28.5	1.2
1965	40.1	37.7	58.5	66.7	30.0	35.9	28.1	30.0	30.8			29.3	1.4
1966	41.1	38.5	59.3	67.4	30.8	37.1	29.1	31.3	32.0			30.6	2.5
1967	42.1	39.5	60.2	68.4	31.6	38.2	29.5	32.7	32.8			32.5	2.6
1968	43.7	41.0	61.4	69.5	33.1	39.3	30.1	34.5	34.5			34.4	3.7
1969	45.6	42.8	63.2	71.0	36.0	40.9	31.2	36.6	36.4			36.7	4.4
1970	47.2	44.7	61.5	68.4	37.4	43.3	33.4	39.6	39.5			39.6	3.6
1971	48.8	46.6	60.6	66.6	39.5	45.3	35.6	42.3	42.4			42.2	3.5
1972	50.3	48.3	59.8	65.0	41.6	46.5	37.8	45.2	46.0	44.3	50.5	44.6	2.9
1973	53.1	51.0	61.8	66.6	45.1	50.8	42.4	48.8	50.1	47.4	56.9	47.8	5.5
1974	57.2	55.8	64.4	68.5	50.1	59.8	54.5	53.5	54.8	51.4	63.3	52.6	7.8
1975	61.8	60.1	69.0	73.1	54.6	65.4	59.7	58.6	59.4	56.5	66.6	57.9	8.0
1976	65.1	63.5	71.4	75.2	58.4	67.4	61.3	62.2	62.4	59.7	69.0	62.0	5.3
1977	68.4	67.5	72.6	74.9	64.8	70.3	66.1	66.0	65.8	63.5	71.5	66.2	5.1
1978	72.7	72.2	74.5	75.0	72.5	74.5	71.3	70.9	70.6	68.6	75.5	71.2	6.2
1979	78.8	78.6	80.3	80.1	81.2	82.9	80.9	77.3	76.8	75.1	81.0	77.7	8.5
1980	86.1	86.8	86.9	86.1	89.4	90.5	96.3	86.3	86.4	84.7	90.6	86.2	9.3
1981	94.1	94.6	94.5	93.9	96.6	97.7	101.5	94.1	94.9	93.8	97.4	93.5	9.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	6.2
1983	104.1	104.2	100.4	99.9	102.2	101.6	97.7	104.5	104.1	103.7	105.1	104.8	4.1
1984	108.3	108.4	101.5	100.2	106.0	104.3	97.5	109.2	108.0	107.6	108.9	110.1	4.0
1985	111.9	112.2	103.3	101.9	108.3	103.7	95.7	113.2	110.4	110.5	110.0	115.3	3.4
1986	115.0	115.3	105.8	104.3	110.9	103.9	93.6	115.6	110.8	111.3	109.4	119.1	2.8
1987	119.1	120.4	108.8	106.8	115.9	106.0	100.8	119.6	113.5	114.0	112.1	124.1	3.6
1982: IV	101.7	101.8	100.2	100.5	99.1	100.0	99.3	102.0	101.7	101.8	101.4	102.2	4.0
1983: IV	105.7	105.8	100.5	99.6	103.3	103.2	97.6	106.0	105.4	104.7	107.0	106.4	4.0
1984: IV	109.6	109.7	102.3	100.9	107.2	104.0	96.8	110.7	109.0	109.0	109.1	111.9	3.2
1985: IV	113.2	113.8	104.2	102.8	109.0	103.4	96.8	114.4	111.0	111.4	110.1	117.0	3.3
1986: I	113.8	114.3	104.7	103.3	109.7	104.0	95.8	114.9	110.9	111.3	110.0	117.8	2.2
II	114.5	114.5	105.5	104.1	110.3	103.9	92.4	115.2	110.8	111.1	109.9	118.4	2.4
III	115.4	115.7	106.1	104.6	111.2	103.7	92.8	115.5	110.5	111.1	108.9	119.3	3.0
IV	116.2	116.6	106.8	105.3	112.2	103.9	94.7	116.6	110.8	111.7	108.7	120.8	2.8
1987: I	117.4	118.2	107.6	106.1	113.2	104.7	97.8	118.0	112.5	113.2	110.6	122.0	4.2
II	118.6	119.9	108.4	106.5	114.9	105.5	100.3	119.1	113.3	113.9	111.7	123.3	4.2
III	119.7	121.1	109.3	107.0	117.4	106.4	101.9	120.1	113.7	114.2	112.5	124.9	3.7
IV	120.8	122.5	109.9	107.5	118.3	107.0	103.0	121.2	114.4	114.8	113.6	126.1	3.8
1988: I	121.8	123.2	110.8	108.3	119.2	108.7	103.9	122.9	116.3	116.6	115.7	127.8	3.5
II	123.3	124.9	111.3	109.0	119.3	110.5	105.3	124.3	117.2	117.4	116.9	129.5	5.0
III	124.9	126.5	111.6	109.4	119.4	113.0	105.4	125.7	118.5	118.0	119.7	131.0	5.3

[1] Separate price indexes are not calculated for gross private domestic investment, change in business inventories, and net exports of goods and services.

[2] Quarterly changes are at annual rates.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–5.—*Changes in gross national product, personal consumption expenditures, and related price measures, 1933–88*

[Percent change from preceding period; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product					Personal consumption expenditures				
	Current dollars	Constant (1982) dollars	Implicit price deflator	Chain price index	Fixed-weighted price index (1982 weights)	Current dollars	Constant (1982) dollars	Implicit price deflator	Chain price index	Fixed-weighted price index (1982 weights)
1933	−4.2	−2.1	−2.2			−5.7	−1.6	−4.2		
1939	7.0	7.9	−.8			4.6	5.1	−.5		
1940	10.0	7.8	2.0			6.0	4.6	1.3		
1941	25.0	17.7	6.2			13.8	5.7	7.7		
1942	26.6	18.8	6.6			9.7	−.7	10.4		
1943	21.2	18.1	2.6			12.2	2.3	9.6		
1944	9.7	8.2	1.4			8.8	3.2	5.4		
1945	.9	−1.9	2.9			10.5	6.4	3.9		
1946	−.5	−19.0	22.9			20.4	10.5	8.9		
1947	10.8	−2.8	13.9			12.5	1.8	10.6		
1948	11.2	3.9	7.0			8.0	2.3	5.6		
1949	−.5	.0	−.5			1.9	2.0	−.1		
1950	10.7	8.5	2.0			7.7	5.4	2.2		
1951	15.7	10.3	4.8			8.3	2.1	6.1		
1952	5.5	3.9	1.5			5.3	3.0	2.2		
1953	5.7	4.0	1.6			6.2	4.0	2.1		
1954	.2	−1.3	1.6			3.1	2.5	.6		
1955	9.0	5.6	3.2			7.5	6.2	1.3		
1956	5.5	2.1	3.4			4.9	3.0	1.9		
1957	5.3	1.7	3.6			5.4	2.2	3.2		
1958	1.3	−.8	2.1			3.3	1.4	1.8		
1959	8.5	5.8	2.4			7.4	5.0	2.2		
1960	3.9	2.2	1.6	1.5	1.4	4.6	2.6	1.9	1.7	1.5
1961	3.6	2.6	1.0	1.0	.7	3.1	2.0	1.2	1.1	.9
1962	7.6	5.3	2.2	1.2	.8	6.1	4.3	1.8	1.1	.9
1963	5.6	4.1	1.6	1.3	1.0	5.5	3.7	1.5	1.4	1.1
1964	7.1	5.3	1.5	1.5	1.2	7.2	5.6	1.7	1.2	1.2
1965	8.5	5.8	2.7	1.8	1.4	7.7	5.6	1.7	1.5	1.2
1966	9.5	5.8	3.6	3.0	2.5	8.3	5.1	3.1	2.7	2.2
1967	5.8	2.9	2.6	2.8	2.6	5.5	3.0	2.5	2.5	2.5
1968	9.3	4.1	5.0	4.3	3.7	9.7	5.1	4.5	4.0	3.8
1969	8.0	2.4	5.6	5.0	4.4	8.2	3.6	4.3	4.4	4.3
1970	5.4	−.3	5.5	5.2	3.6	7.0	2.4	4.6	4.7	4.6
1971	8.6	2.8	5.7	4.8	3.5	8.1	3.1	4.7	4.3	4.2
1972	10.0	5.0	4.7	4.2	2.9	9.5	5.4	4.0	3.6	3.5
1973	12.1	5.2	6.5	5.9	5.5	10.5	4.2	6.2	6.0	5.7
1974	8.3	−.5	9.1	8.9	7.8	9.5	−.9	10.5	10.3	9.4
1975	8.5	−1.3	9.8	9.2	8.0	10.5	2.3	8.0	8.0	7.7
1976	11.5	4.9	6.4	5.9	5.3	11.5	5.4	5.7	5.7	5.6
1977	11.7	4.7	6.7	6.1	5.1	11.3	4.4	6.5	6.4	6.3
1978	13.0	5.3	7.3	7.2	6.2	11.6	4.1	7.3	7.2	7.0
1979	11.5	2.5	8.9	8.7	8.5	11.6	2.2	9.2	9.2	8.8
1980	8.9	−.2	9.0	9.0	9.3	10.6	−.2	10.7	10.9	10.5
1981	11.7	1.9	9.7	9.4	9.3	10.5	1.2	9.2	9.2	9.0
1982	3.7	−2.5	6.4	6.3	6.2	7.1	1.3	5.7	5.7	5.6
1983	7.6	3.6	3.9	4.1	4.1	9.0	4.6	4.1	4.2	4.2
1984	10.8	6.8	3.7	3.9	4.0	8.8	4.8	3.8	3.9	4.0
1985	6.4	3.4	3.0	3.3	3.4	8.2	4.7	3.2	3.5	3.5
1986	5.6	2.8	2.7	2.5	2.8	6.8	4.3	2.4	2.7	2.7
1987	6.8	3.4	3.3	3.4	3.6	7.3	2.7	4.5	4.5	4.5
1982: IV	4.2	.6	3.6	4.1	4.0	10.3	5.3	4.4	4.8	4.8
1983: IV	12.4	7.3	4.7	3.9	4.0	9.7	5.5	4.3	4.1	4.1
1984: IV	4.7	1.7	3.0	3.1	3.2	7.2	4.3	3.0	3.1	3.2
1985: IV	6.2	3.0	3.3	3.2	3.3	6.0	1.9	4.0	4.2	4.3
1986: I	7.2	6.4	.7	1.7	2.2	5.8	4.8	1.1	1.4	1.5
II	2.6	−.8	3.6	2.0	2.4	4.9	4.3	.7	.8	.7
III	5.9	1.0	4.7	3.1	3.0	10.6	6.3	3.9	4.3	4.2
IV	3.4	1.4	2.1	2.4	2.8	4.8	1.2	3.5	3.5	3.5
1987: I	8.4	4.6	3.5	4.0	4.2	6.5	.6	5.6	5.5	5.6
II	8.7	5.0	3.5	3.7	4.2	10.0	4.3	5.6	5.7	5.7
III	7.7	4.5	3.1	3.6	3.7	9.1	4.6	4.4	4.3	4.2
IV	8.6	6.1	2.4	3.4	3.8	2.4	−2.1	4.4	4.4	4.6
1988: I	5.4	3.4	1.7	3.0	3.5	6.9	4.5	2.3	2.5	2.4
II	8.7	3.0	5.5	4.8	5.0	8.8	3.0	5.7	5.6	5.7
III	7.3	2.5	4.7	4.7	5.3	8.6	3.9	4.3	4.6	4.9

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–6.—*Gross national product by major type of product, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Final sales	Inventory change	Goods							Services	Structures	Auto output
				Total			Durable goods		Nondurable goods				
				Total	Final sales	Inventory change	Final sales	Inventory change	Final sales	Inventory change			
1929	103.9	102.2	1.7	56.1	54.4	1.7	16.1	1.4	38.3	0.3	35.9	11.9	.....
1933	56.0	57.6	−1.6	27.0	28.6	−1.6	5.4	−.5	23.2	−1.1	25.9	3.1	.....
1939	91.3	90.9	.4	49.0	48.6	.4	12.4	.3	36.2	.1	34.5	7.8	.....
1940	100.4	98.3	2.2	56.0	53.8	2.2	15.4	1.2	38.4	1.0	35.8	8.6	.....
1941	125.5	121.0	4.5	72.5	68.0	4.5	23.8	3.1	44.2	1.4	40.9	12.1	.....
1942	159.0	157.2	1.8	93.7	91.9	1.8	34.5	1.0	57.4	.7	50.9	14.4	.....
1943	192.7	193.4	−.6	120.4	121.0	−.6	54.2	.0	66.8	−.6	63.2	9.2	.....
1944	211.4	212.3	−1.0	132.3	133.3	−1.0	58.5	−.6	74.8	−.3	72.4	6.6	.....
1945	213.4	214.4	−1.0	128.9	129.9	−1.0	50.1	−1.3	79.8	.2	77.3	7.2	.....
1946	212.4	206.0	6.4	125.3	118.9	6.4	31.8	5.3	87.1	1.1	70.5	16.6	.....
1947	235.2	235.7	−.5	139.8	140.3	−.5	44.4	1.4	95.9	−1.9	72.7	22.8	7.2
1948	261.6	256.9	4.7	154.4	149.7	4.7	48.0	1.0	101.7	3.7	78.0	29.2	8.8
1949	260.4	263.4	−3.1	147.7	150.8	−3.1	50.0	−1.8	100.9	−1.3	83.0	29.6	11.9
1950	288.3	281.4	6.8	162.4	155.6	6.8	56.2	3.6	99.4	3.2	89.0	36.9	15.4
1951	333.4	323.2	10.2	189.9	179.6	10.2	66.4	6.1	113.2	4.2	104.4	39.1	13.3
1952	351.6	348.6	3.1	195.5	192.4	3.1	72.6	1.2	119.8	1.9	115.2	40.9	12.0
1953	371.6	371.1	.4	204.6	204.2	.4	78.0	1.5	126.2	−1.1	123.4	43.6	16.1
1954	372.5	374.1	−1.6	198.0	199.6	−1.6	74.1	−2.5	125.5	.9	128.5	46.0	14.7
1955	405.9	400.2	5.7	216.3	210.6	5.7	81.7	3.4	128.9	2.3	138.5	51.1	21.2
1956	428.2	423.6	4.6	225.4	220.7	4.6	86.2	2.1	134.5	2.5	148.9	53.9	16.9
1957	451.0	449.6	1.4	234.7	233.3	1.4	91.7	.5	141.6	.9	161.6	54.8	19.4
1958	456.8	458.3	−1.5	230.5	232.0	−1.5	84.8	−2.8	147.2	1.3	170.9	55.5	14.5
1959	495.8	490.0	5.8	250.8	245.1	5.8	91.1	3.1	154.0	2.6	183.5	61.5	19.4
1960	515.3	512.3	3.1	257.2	254.1	3.1	93.8	1.6	160.3	1.4	197.4	60.7	21.3
1961	533.8	531.4	2.4	260.4	258.0	2.4	93.1	−.1	164.8	2.5	210.9	62.5	17.8
1962	574.6	568.5	6.1	281.5	275.4	6.1	103.4	3.4	172.0	2.7	226.4	66.7	22.4
1963	606.9	601.1	5.8	293.2	287.4	5.8	110.0	2.7	177.4	3.1	242.2	71.5	25.1
1964	649.8	644.4	5.4	313.5	308.1	5.4	119.6	4.0	188.5	1.4	261.1	75.2	25.9
1965	705.1	695.2	9.9	342.9	333.0	9.9	132.4	6.7	200.6	3.2	280.5	81.7	31.1
1966	772.0	757.8	14.2	380.1	365.9	14.2	147.9	10.2	218.1	4.0	307.2	84.6	30.2
1967	816.4	806.1	10.3	395.1	384.9	10.3	154.5	5.5	230.4	4.8	334.9	86.4	27.8
1968	892.7	884.8	7.9	427.4	419.5	7.9	169.1	4.7	250.4	3.2	368.0	97.2	35.0
1969	963.9	954.1	9.8	456.6	446.8	9.8	180.1	6.4	266.7	3.4	402.3	105.1	34.7
1970	1,015.5	1,012.3	3.1	467.8	464.7	3.1	182.1	−.1	282.6	3.2	441.1	106.5	28.5
1971	1,102.7	1,094.9	7.8	493.0	485.2	7.8	189.4	2.8	295.8	4.9	484.9	124.8	38.9
1972	1,212.8	1,202.3	10.5	537.4	526.9	10.5	209.7	7.2	317.2	3.3	533.2	142.1	41.4
1973	1,359.3	1,339.7	19.6	616.4	596.8	19.6	241.9	15.0	354.9	4.6	586.6	156.3	46.0
1974	1,472.8	1,457.4	15.4	663.1	647.7	15.4	257.2	11.2	390.4	4.3	650.6	159.1	38.8
1975	1,598.4	1,604.1	−5.6	714.7	720.3	−5.6	288.2	−7.0	432.2	1.3	725.2	158.5	40.3
1976	1,782.8	1,766.8	16.0	798.9	782.9	16.0	323.6	10.3	459.3	5.7	803.5	180.4	55.2
1977	1,990.5	1,969.2	21.3	882.0	860.7	21.3	369.4	9.7	491.3	11.6	895.9	212.6	64.3
1978	2,249.7	2,221.0	28.6	991.4	962.8	28.6	416.9	20.1	545.9	8.6	1,003.0	255.3	68.3
1979	2,508.2	2,495.2	13.0	1,099.1	1,086.1	13.0	473.1	10.3	613.0	2.7	1,121.9	287.1	66.9
1980	2,732.0	2,740.3	−8.3	1,174.9	1,183.2	−8.3	499.4	−2.9	683.8	−5.4	1,265.0	292.0	60.1
1981	3,052.6	3,028.6	24.0	1,322.9	1,298.9	24.0	541.1	6.8	757.8	17.2	1,415.4	314.4	69.4
1982	3,166.0	3,190.5	−24.5	1,319.1	1,343.7	−24.5	542.9	−16.8	800.8	−7.7	1,547.5	299.4	66.5
1983	3,405.7	3,412.8	−7.1	1,396.1	1,403.2	−7.1	575.3	−1.0	827.9	−6.1	1,682.5	327.1	88.6
1984	3,772.2	3,704.5	67.7	1,581.4	1,513.7	67.7	641.3	40.2	872.4	27.5	1,813.9	377.0	105.1
1985	4,014.9	4,003.6	11.3	1,641.2	1,629.9	11.3	700.1	6.5	929.8	4.9	1,968.3	405.4	116.5
1986	4,240.3	4,224.7	15.5	1,697.9	1,682.3	15.5	721.1	4.3	961.3	11.3	2,118.4	424.0	120.6
1987	4,526.7	4,487.5	39.2	1,792.5	1,753.3	39.2	749.7	26.6	1,003.6	12.6	2,295.7	438.4	116.3
1982: IV	3,212.5	3,272.4	−59.9	1,309.8	1,369.7	−59.9	551.8	−42.7	817.9	−17.2	1,598.9	303.9	64.5
1983: IV	3,545.8	3,514.8	31.0	1,473.7	1,442.7	31.0	611.9	16.7	830.9	14.3	1,730.1	342.0	102.1
1984: IV	3,851.8	3,806.8	45.0	1,599.9	1,554.9	45.0	667.6	33.0	887.3	12.0	1,866.5	385.4	111.5
1985: IV	4,107.9	4,100.7	7.2	1,657.4	1,650.2	7.2	697.9	8.6	952.3	−1.4	2,035.7	414.8	115.5
1986: I	4,180.4	4,136.5	44.0	1,690.5	1,646.5	44.0	691.1	25.1	955.4	18.9	2,068.0	421.9	115.4
II	4,207.6	4,188.1	19.5	1,688.3	1,668.9	19.5	709.1	4.9	959.7	14.6	2,097.5	421.7	119.4
III	4,268.4	4,267.7	.7	1,707.8	1,707.1	.7	748.2	−8.1	958.9	8.8	2,136.2	424.4	124.2
IV	4,304.6	4,306.6	−2.0	1,705.0	1,706.9	−2.0	735.8	−4.9	971.1	2.9	2,171.7	428.0	123.5
1987: I	4,391.8	4,354.1	37.7	1,733.4	1,695.7	37.7	708.4	28.8	987.3	8.9	2,228.4	430.0	116.2
II	4,484.2	4,451.5	32.7	1,774.5	1,741.8	32.7	742.8	24.3	999.1	8.4	2,276.2	433.4	113.1
III	4,568.0	4,553.5	14.5	1,812.9	1,798.4	14.5	789.3	2.9	1,009.1	11.6	2,314.4	440.6	115.3
IV	4,662.8	4,590.7	72.0	1,849.3	1,777.3	72.0	758.2	50.5	1,019.1	21.6	2,363.9	449.5	120.6
1988: I	4,724.5	4,659.2	65.3	1,879.5	1,814.2	65.3	792.7	26.6	1,021.5	38.6	2,405.2	439.9	113.1
II	4,823.8	4,780.1	43.7	1,928.0	1,884.3	43.7	831.6	17.8	1,052.7	25.9	2,451.5	444.3	130.3
III	4,909.0	4,859.3	49.7	1,960.1	1,910.4	49.7	836.4	45.1	1,074.0	4.6	2,501.6	447.3	132.0

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–7.—*Gross national product by major type of product in 1982 dollars, 1929–88*

[Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Final sales	Inventory change	Goods							Services	Structures	Auto output
				Total			Durable goods		Nondurable goods				
				Total	Final sales	Inventory change	Final sales	Inventory change	Final sales	Inventory change			
1929	709.6	698.7	10.8	308.1	297.3	10.8	85.8	7.5	211.5	3.3	290.0	111.4	.....
1933	498.5	509.2	−10.7	210.0	220.7	−10.7	34.9	−4.5	185.7	−6.2	252.1	36.5	.....
1939	716.6	712.7	3.9	331.7	327.8	3.9	74.8	1.6	253.1	2.3	306.4	78.5	.....
1940	772.9	758.5	14.4	370.3	355.9	14.4	91.9	7.2	264.0	7.2	318.1	84.5	.....
1941	909.4	881.6	27.8	431.9	404.2	27.8	122.9	17.4	281.2	10.3	367.1	110.3	.....
1942	1,080.3	1,068.3	12.0	504.1	492.1	12.0	163.3	7.5	328.8	4.5	460.4	115.8	.....
1943	1,276.2	1,275.5	.7	608.6	607.9	.7	254.4	1.4	353.5	−.7	598.9	68.7	.....
1944	1,380.6	1,385.7	−5.2	664.6	669.8	−5.2	292.4	−3.8	377.4	−1.4	665.0	50.9	.....
1945	1,354.8	1,363.3	−8.4	639.1	647.5	−8.4	263.1	−7.8	384.4	−.6	662.3	53.5	.....
1946	1,096.9	1,069.0	27.9	521.0	493.1	27.9	129.6	23.1	363.5	4.8	472.0	104.0	.....
1947	1,066.7	1,067.7	−1.0	517.1	518.1	−1.0	164.7	2.8	353.4	−3.8	431.0	118.6	24.1
1948	1,108.7	1,096.4	12.3	531.7	519.4	12.3	166.5	3.4	353.0	8.8	438.1	138.9	27.6
1949	1,109.0	1,118.7	−9.7	517.9	527.6	−9.7	166.8	−6.1	360.8	−3.6	450.1	141.0	35.5
1950	1,203.7	1,179.5	24.2	561.4	537.2	24.2	180.0	11.4	357.1	12.8	470.4	171.9	44.9
1951	1,328.2	1,297.4	30.8	623.0	592.2	30.8	208.8	19.1	383.4	11.7	537.7	167.5	38.3
1952	1,380.0	1,370.0	10.0	641.3	631.3	10.0	229.8	3.6	401.5	6.4	567.3	171.4	34.9
1953	1,435.3	1,432.5	2.8	676.6	673.8	2.8	245.4	4.7	428.4	−2.0	577.6	181.2	44.8
1954	1,416.2	1,421.0	−4.8	643.5	648.2	−4.8	230.6	−7.7	417.7	2.9	579.5	193.2	43.3
1955	1,494.9	1,478.6	16.3	683.9	667.6	16.3	245.2	9.5	422.3	6.8	601.0	210.0	58.2
1956	1,525.6	1,512.7	12.9	697.1	684.1	12.9	248.3	6.3	435.8	6.7	619.7	208.9	45.8
1957	1,551.1	1,548.1	3.0	699.3	696.3	3.0	251.3	1.9	445.0	1.1	645.4	206.5	48.3
1958	1,539.2	1,542.6	−3.4	674.2	677.6	−3.4	229.1	−7.1	448.6	3.7	654.7	210.3	37.4
1959	1,629.1	1,612.6	16.5	716.6	700.1	16.5	236.8	8.2	463.4	8.3	681.5	231.0	45.7
1960	1,665.3	1,657.5	7.7	726.8	719.1	7.7	242.2	4.0	476.9	3.7	709.9	228.5	49.6
1961	1,708.7	1,701.4	7.3	730.2	723.0	7.3	239.2	−.1	483.7	7.3	743.0	235.4	41.1
1962	1,799.4	1,783.3	16.2	773.5	757.3	16.2	260.2	8.4	497.1	7.7	777.0	248.9	49.8
1963	1,873.3	1,856.7	16.6	797.5	780.8	16.6	273.4	7.1	507.4	9.5	811.5	264.4	54.6
1964	1,973.3	1,957.6	15.7	845.2	829.5	15.7	295.4	11.2	534.1	4.5	852.8	275.3	55.3
1965	2,087.6	2,062.4	25.2	904.0	878.8	25.2	322.2	17.4	556.5	7.8	891.6	292.0	66.9
1966	2,208.3	2,171.5	36.9	974.7	937.8	36.9	354.2	26.3	583.6	10.6	942.7	291.0	64.8
1967	2,271.4	2,242.6	28.8	993.1	964.3	28.8	363.6	14.4	600.7	14.4	990.6	287.6	58.3
1968	2,365.6	2,344.6	21.0	1,024.8	1,003.7	21.0	378.5	11.8	625.3	9.3	1,032.0	308.8	70.5
1969	2,423.3	2,398.1	25.1	1,048.5	1,023.3	25.1	389.7	15.2	633.6	9.9	1,066.9	307.9	67.6
1970	2,416.2	2,407.9	8.2	1,030.0	1,021.7	8.2	381.7	−.5	640.1	8.8	1,092.4	293.8	53.1
1971	2,484.8	2,465.2	19.6	1,037.6	1,017.9	19.6	375.5	7.1	642.4	12.5	1,126.1	321.2	69.8
1972	2,608.5	2,586.8	21.8	1,093.8	1,072.1	21.8	409.4	15.4	662.7	6.4	1,169.4	345.4	73.9
1973	2,744.1	2,704.1	40.0	1,175.0	1,135.0	40.0	474.9	30.8	660.1	9.2	1,218.7	350.4	82.0
1974	2,729.3	2,696.0	33.3	1,159.2	1,125.9	33.3	476.0	20.0	649.9	13.3	1,256.4	313.7	65.4
1975	2,695.0	2,707.8	−12.8	1,125.0	1,137.8	−12.8	471.1	−11.4	666.7	−1.4	1,286.4	283.6	61.8
1976	2,826.7	2,804.6	22.1	1,194.7	1,172.5	22.1	490.9	15.9	681.7	6.3	1,324.4	307.6	80.1
1977	2,958.6	2,929.5	29.1	1,256.2	1,227.1	29.1	534.0	14.2	693.1	14.9	1,368.7	333.7	88.7
1978	3,115.2	3,078.4	36.8	1,329.1	1,292.4	36.8	572.5	27.5	719.9	9.3	1,426.9	359.1	87.3
1979	3,192.4	3,177.4	15.0	1,354.6	1,339.6	15.0	604.6	13.3	735.1	1.7	1,478.6	359.2	80.2
1980	3,187.1	3,194.0	−6.9	1,344.2	1,351.1	−6.9	584.0	−3.2	767.1	−3.7	1,511.1	331.8	67.1
1981	3,248.8	3,225.0	23.9	1,386.0	1,362.2	23.9	578.5	6.9	783.7	16.9	1,533.4	329.4	73.3
1982	3,166.0	3,190.5	−24.5	1,319.1	1,343.7	−24.5	542.9	−16.8	800.8	−7.7	1,547.5	299.4	66.5
1983	3,279.1	3,285.5	−6.4	1,367.0	1,373.4	−6.4	566.3	−1.2	807.0	−5.2	1,585.5	326.6	85.9
1984	3,501.4	3,439.1	62.3	1,509.2	1,446.9	62.3	623.5	38.2	823.3	24.2	1,625.2	367.1	98.5
1985	3,618.7	3,609.6	9.1	1,553.6	1,544.5	9.1	686.1	5.6	858.4	3.5	1,684.3	380.8	106.5
1986	3,721.7	3,706.3	15.4	1,599.0	1,583.5	15.4	710.7	3.8	872.8	11.6	1,738.1	384.7	106.2
1987	3,847.0	3,812.6	34.4	1,663.3	1,628.9	34.4	750.7	23.9	878.2	10.5	1,801.1	382.6	100.6
1982: IV	3,159.3	3,218.6	−59.3	1,297.9	1,357.1	−59.3	543.8	−42.4	813.4	−16.9	1,555.5	305.9	63.3
1983: IV	3,365.1	3,338.1	27.0	1,423.8	1,396.8	27.0	598.0	16.1	798.8	10.9	1,600.7	340.6	96.4
1984: IV	3,535.2	3,493.5	41.7	1,520.2	1,478.5	41.7	647.8	31.1	830.7	10.6	1,644.7	370.3	104.2
1985: IV	3,662.4	3,654.7	7.7	1,564.7	1,557.0	7.7	687.7	7.3	869.4	.4	1,712.5	385.2	104.8
1986: I	3,719.3	3,673.6	45.7	1,604.7	1,559.1	45.7	683.9	23.2	875.1	22.5	1,724.8	389.7	104.2
II	3,711.6	3,688.0	23.6	1,598.0	1,574.4	23.6	700.7	4.1	873.7	19.5	1,730.7	383.0	106.0
III	3,721.3	3,718.3	3.0	1,595.3	1,592.3	3.0	733.5	−7.5	858.8	10.5	1,743.6	382.4	107.3
IV	3,734.7	3,745.2	−10.5	1,597.8	1,608.3	−10.5	724.8	−4.5	883.6	−6.0	1,753.2	383.7	107.3
1987: I	3,776.7	3,746.9	29.8	1,616.2	1,586.4	29.8	702.3	25.7	884.1	4.1	1,778.2	382.4	102.0
II	3,823.0	3,795.2	27.8	1,645.6	1,617.8	27.8	742.3	21.5	875.5	6.3	1,797.2	380.2	98.4
III	3,865.3	3,852.2	13.0	1,677.5	1,664.5	13.0	790.8	2.9	873.7	10.1	1,806.6	381.1	99.2
IV	3,923.0	3,855.9	67.1	1,713.9	1,646.8	67.1	767.2	45.5	879.6	21.6	1,822.3	386.7	102.9
1988: I	3,956.1	3,890.1	66.0	1,748.1	1,682.2	66.0	809.0	23.5	873.2	42.4	1,833.4	374.6	96.0
II	3,985.2	3,949.9	35.3	1,762.4	1,727.1	35.3	845.8	15.9	881.3	19.4	1,846.1	376.7	111.2
III	4,009.4	3,969.9	39.5	1,768.9	1,729.4	39.5	844.6	40.4	884.9	−.9	1,862.8	377.7	111.5

Source: Department of Commerce, Bureau of Economic Analysis.

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TABLE B–8.—*Gross national product by sector, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Gross domestic product									Rest of the world
		Total	Business [1]				Households and institutions	Government [2]			
			Total [1]	Nonfarm [1]	Farm	Statistical discrepancy		Total	Federal	State and local	
1929	103.9	103.2	96.0	84.8	9.7	1.5	2.9	4.4	0.9	3.5	0.8
1933	56.0	55.7	49.3	43.6	4.6	1.2	1.7	4.7	1.2	3.5	.3
1939	91.3	90.9	81.0	73.0	6.3	1.7	2.3	7.6	3.5	4.2	.4
1940	100.4	100.1	89.8	82.0	6.4	1.4	2.4	7.8	3.5	4.3	.4
1941	125.5	125.0	113.0	103.4	8.9	.7	2.5	9.5	5.1	4.4	.5
1942	159.0	158.5	140.4	128.0	13.0	−.7	2.9	15.2	10.7	4.5	.5
1943	192.7	192.3	163.4	149.8	15.3	−1.7	3.2	25.6	21.0	4.7	.4
1944	211.4	210.9	174.9	156.9	15.3	2.7	3.7	32.3	27.3	4.9	.5
1945	213.4	213.0	173.5	153.5	16.0	4.0	4.1	35.3	30.0	5.4	.4
1946	212.4	211.6	184.8	165.2	18.8	.7	4.5	22.4	16.2	6.2	.7
1947	235.2	234.1	211.3	189.3	20.2	1.8	5.1	17.6	10.3	7.3	1.2
1948	261.6	260.1	236.4	214.4	23.3	−1.3	5.6	18.1	9.6	8.5	1.5
1949	260.4	259.0	232.9	213.3	18.8	.8	5.9	20.1	10.7	9.4	1.4
1950	288.3	286.7	259.0	238.3	20.0	.8	6.5	21.2	11.1	10.1	1.5
1951	333.4	331.4	296.7	271.1	22.9	2.7	6.9	27.7	16.6	11.2	2.0
1952	351.6	349.4	310.7	286.7	22.2	1.8	7.2	31.5	19.3	12.3	2.2
1953	371.6	369.5	329.3	306.3	20.3	2.6	7.8	32.4	19.1	13.3	2.1
1954	372.5	370.3	329.1	306.7	19.7	2.7	8.1	33.0	18.3	14.7	2.2
1955	405.9	403.3	359.4	338.8	18.8	1.8	9.1	34.8	19.0	15.8	2.6
1956	428.2	425.2	378.1	361.4	18.6	−1.9	9.9	37.2	19.6	17.6	3.0
1957	451.0	447.7	397.3	380.1	18.4	−1.2	10.6	39.8	20.2	19.6	3.4
1958	456.8	453.9	399.5	378.9	20.7	−.1	11.5	42.9	21.3	21.6	2.9
1959	495.8	492.7	435.5	417.9	19.0	−1.5	12.4	44.8	21.7	23.1	3.1
1960	515.3	511.8	449.9	432.5	20.2	−2.8	13.9	48.1	22.6	25.5	3.5
1961	533.8	530.0	463.9	445.0	20.2	−1.2	14.5	51.6	23.6	27.9	3.8
1962	574.6	570.1	499.1	478.6	20.4	.0	15.6	55.4	25.2	30.2	4.5
1963	606.9	602.0	526.0	506.2	20.5	−.6	16.7	59.3	26.5	32.9	4.9
1964	649.8	644.4	562.1	544.3	19.3	−1.4	17.9	64.4	28.5	35.9	5.4
1965	705.1	699.3	610.7	590.0	21.9	−1.2	19.3	69.3	30.0	39.3	5.8
1966	772.0	766.3	666.7	641.7	22.8	2.1	21.3	78.4	34.3	44.1	5.6
1967	816.4	810.4	699.7	677.8	22.2	−.4	23.4	87.4	37.8	49.5	6.0
1968	892.7	885.9	762.0	740.4	22.7	−1.1	26.1	97.8	41.9	55.9	6.8
1969	963.9	957.1	820.1	798.8	25.2	−3.9	29.5	107.5	44.9	62.6	6.8
1970	1,015.5	1,008.2	856.3	831.2	26.3	−1.1	32.4	119.5	48.4	71.1	7.3
1971	1,102.7	1,093.4	927.4	897.5	28.1	1.8	35.6	130.3	51.1	79.3	9.3
1972	1,212.8	1,201.6	1,020.0	988.8	32.8	−1.6	39.0	142.6	54.9	87.7	11.2
1973	1,359.3	1,343.1	1,145.0	1,098.3	51.0	−4.3	43.0	155.0	57.1	97.9	16.2
1974	1,472.8	1,453.3	1,237.5	1,190.0	49.2	−1.7	47.2	168.7	61.1	107.6	19.5
1975	1,598.4	1,580.9	1,341.2	1,288.4	50.3	2.5	52.0	187.7	66.5	121.1	17.5
1976	1,782.8	1,761.7	1,500.7	1,448.7	48.5	3.6	57.1	203.8	70.9	132.9	21.1
1977	1,990.5	1,965.1	1,682.1	1,631.7	50.4	.0	62.4	220.5	75.5	145.0	25.4
1978	2,249.7	2,219.1	1,908.4	1,850.0	60.3	−1.9	70.2	240.5	81.7	158.9	30.5
1979	2,508.2	2,464.4	2,125.3	2,054.5	71.8	−1.0	78.6	260.4	86.9	173.5	43.8
1980	2,732.0	2,684.4	2,306.8	2,236.4	65.5	4.9	89.3	288.3	96.1	192.2	47.6
1981	3,052.6	3,000.5	2,582.8	2,498.9	79.8	4.1	101.0	316.7	107.4	209.3	52.1
1982	3,166.0	3,114.8	2,658.2	2,581.3	77.0	−.1	112.7	343.9	117.0	226.9	51.2
1983	3,405.7	3,355.9	2,866.6	2,802.1	59.3	5.2	122.9	366.4	124.7	241.7	49.9
1984	3,772.2	3,724.8	3,201.5	3,118.5	77.6	5.4	132.7	390.6	132.1	258.5	47.4
1985	4,014.9	3,974.1	3,412.8	3,342.2	75.4	−4.8	142.3	419.0	140.2	278.8	40.7
1986	4,240.3	4,205.4	3,608.9	3,547.1	75.4	−13.6	153.1	443.4	143.5	299.9	34.9
1987	4,526.7	4,497.2	3,855.5	3,787.8	75.9	−8.1	168.9	472.7	151.0	321.7	29.5
1982: IV	3,212.5	3,163.8	2,693.6	2,607.7	79.0	6.8	116.9	353.4	120.7	232.6	48.7
1983: IV	3,545.8	3,494.6	2,994.8	2,932.7	59.6	2.5	126.6	373.1	126.0	247.2	51.3
1984: IV	3,851.8	3,805.9	3,270.6	3,198.7	74.0	−2.1	136.1	399.1	134.0	265.1	46.0
1985: IV	4,107.9	4,065.9	3,490.7	3,422.4	76.2	−7.9	146.6	428.6	142.4	286.2	42.0
1986: I	4,180.4	4,139.6	3,556.5	3,495.2	73.4	−12.0	149.0	434.1	142.6	291.4	40.8
II	4,207.6	4,175.2	3,583.7	3,518.0	75.3	−9.5	151.5	440.0	143.2	296.8	32.3
III	4,268.4	4,232.5	3,632.3	3,570.3	75.7	−13.6	154.4	445.7	143.6	302.1	35.9
IV	4,304.6	4,274.1	3,662.8	3,604.9	77.3	−19.4	157.5	453.8	144.5	309.3	30.5
1987: I	4,391.8	4,359.9	3,735.6	3,670.0	74.1	−8.5	161.5	462.8	149.2	313.7	31.9
II	4,484.2	4,455.9	3,819.9	3,743.2	79.2	−2.5	166.3	469.8	150.8	319.0	28.2
III	4,568.0	4,541.2	3,893.8	3,832.2	76.8	−15.1	171.7	475.7	151.3	324.4	26.8
IV	4,662.8	4,631.8	3,972.9	3,905.8	73.4	−6.4	176.4	482.5	152.7	329.9	31.0
1988: I	4,724.5	4,702.1	4,028.1	3,965.4	77.7	−15.0	180.9	493.1	156.7	336.4	22.4
II	4,823.8	4,802.5	4,117.5	4,048.0	74.6	−5.1	185.6	499.4	157.4	342.1	21.3
III	4,909.0	4,882.2	4,185.2	4,123.7	75.6	−14.0	191.2	505.8	158.1	347.8	26.8

[1] Includes compensation of employees in government enterprises.
[2] Compensation of government employees.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–9.—*Gross national product by sector in 1982 dollars, 1929–88*

[Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Gross domestic product									Rest of the world
		Total	Business [1]				Households and institutions	Government [2]			
			Total [1]	Nonfarm [1]	Farm	Statistical discrepancy		Total	Federal	State and local	
1929	709.6	704.6	611.6	547.8	54.1	9.7	34.4	58.6	13.2	45.3	4.9
1933	498.5	496.1	404.9	338.7	56.6	9.6	27.1	64.0	16.2	47.9	2.4
1939	716.6	713.5	586.8	518.3	56.4	12.1	33.3	93.4	38.9	54.6	3.1
1940	772.9	770.3	635.5	571.2	54.6	9.7	35.8	99.0	44.1	55.0	2.6
1941	909.4	906.0	738.7	675.8	58.1	4.8	35.8	131.5	76.2	55.3	3.4
1942	1,080.3	1,077.1	832.9	774.4	62.4	−4.0	36.9	207.4	152.9	54.4	3.1
1943	1,276.2	1,273.4	891.6	841.6	59.2	−9.2	34.3	347.6	294.6	52.9	2.7
1944	1,380.6	1,377.7	934.3	862.5	57.2	14.6	34.3	409.1	357.5	51.7	2.9
1945	1,354.8	1,352.6	914.3	839.3	53.7	21.3	34.4	403.8	350.7	53.2	2.3
1946	1,096.9	1,093.3	866.3	809.0	54.0	3.3	35.4	191.6	135.0	56.6	3.6
1947	1,066.7	1,061.6	886.1	828.6	49.9	7.6	37.9	137.7	76.7	61.0	5.1
1948	1,108.7	1,102.5	925.4	875.1	55.2	−4.9	41.2	135.8	73.2	62.6	6.2
1949	1,109.0	1,103.4	916.7	858.5	55.0	3.2	42.4	144.2	77.1	67.1	5.6
1950	1,203.7	1,197.4	1,002.8	941.4	58.3	3.1	45.0	149.6	80.3	69.3	6.2
1951	1,328.2	1,320.3	1,080.5	1,014.9	56.0	9.7	46.1	193.7	122.8	71.0	7.9
1952	1,380.0	1,371.7	1,114.7	1,050.9	57.2	6.5	46.2	210.7	137.5	73.3	8.3
1953	1,435.3	1,427.4	1,170.0	1,101.3	59.3	9.4	47.7	209.7	133.2	76.5	7.9
1954	1,416.2	1,407.8	1,154.6	1,084.2	60.9	9.5	48.4	204.8	125.0	79.8	8.4
1955	1,494.9	1,485.5	1,229.7	1,161.5	62.0	6.2	53.2	202.6	119.2	83.4	9.4
1956	1,525.6	1,515.0	1,254.1	1,199.6	60.7	−6.2	56.1	204.8	116.1	88.7	10.7
1957	1,551.1	1,539.7	1,274.0	1,219.0	58.8	−3.8	57.7	208.0	114.5	93.5	11.5
1958	1,539.2	1,529.7	1,260.4	1,199.7	61.2	−.5	60.7	208.6	109.5	99.2	9.5
1959	1,629.1	1,619.1	1,345.8	1,291.6	58.8	−4.6	62.7	210.6	107.5	103.1	10.0
1960	1,665.3	1,654.1	1,369.7	1,317.2	61.1	−8.7	67.4	217.1	108.9	108.2	11.1
1961	1,708.7	1,696.6	1,403.2	1,346.7	60.2	−3.7	68.0	225.4	111.5	113.9	12.1
1962	1,799.4	1,785.6	1,480.9	1,421.1	59.8	.1	70.7	233.9	116.7	117.3	13.9
1963	1,873.3	1,858.5	1,546.7	1,488.7	59.8	−1.8	72.5	239.2	116.1	123.1	14.9
1964	1,973.3	1,957.1	1,635.2	1,581.6	57.7	−4.1	74.6	247.3	116.8	130.5	16.1
1965	2,087.6	2,070.6	1,737.4	1,681.8	59.0	−3.4	77.4	255.8	117.3	138.5	17.0
1966	2,208.3	2,192.5	1,837.1	1,776.5	54.7	5.9	80.4	275.0	128.1	146.9	15.9
1967	2,271.4	2,255.0	1,880.9	1,824.2	57.7	−1.0	83.1	291.0	138.5	152.4	16.3
1968	2,365.6	2,347.9	1,961.1	1,908.3	55.7	−2.8	85.6	301.2	140.7	160.5	17.7
1969	2,423.3	2,406.2	2,009.8	1,962.1	57.2	−9.5	88.2	308.2	141.0	167.2	17.0
1970	2,416.2	2,399.1	2,004.4	1,946.4	60.7	−2.7	87.0	307.7	133.2	174.5	17.1
1971	2,484.8	2,464.1	2,068.0	2,001.4	62.3	4.2	88.8	307.4	125.5	181.9	20.7
1972	2,608.5	2,584.9	2,186.6	2,128.0	62.0	−3.4	91.2	307.1	118.3	188.8	23.7
1973	2,744.1	2,711.8	2,309.1	2,256.6	61.1	−8.6	93.4	309.3	113.6	195.7	32.2
1974	2,729.3	2,693.5	2,283.9	2,226.5	60.7	−3.3	93.9	315.7	113.5	202.1	35.9
1975	2,695.0	2,665.7	2,249.6	2,180.6	64.8	4.2	96.4	319.6	112.8	206.8	29.3
1976	2,826.7	2,793.7	2,374.8	2,306.6	62.5	5.6	97.0	321.9	112.7	209.2	33.0
1977	2,958.6	2,921.2	2,497.2	2,434.9	62.2	.1	98.0	326.0	112.7	213.3	37.4
1978	3,115.2	3,073.0	2,639.2	2,581.0	61.0	−2.8	101.0	332.8	113.9	219.0	42.1
1979	3,192.4	3,136.6	2,696.4	2,633.2	64.6	−1.4	103.7	336.5	113.0	223.5	55.7
1980	3,187.1	3,131.7	2,683.2	2,613.1	64.2	5.9	107.3	341.2	114.4	226.8	55.5
1981	3,248.8	3,193.6	2,739.8	2,659.6	75.7	4.4	109.9	343.9	115.8	228.1	55.2
1982	3,166.0	3,114.8	2,658.2	2,581.3	77.0	−.1	112.7	343.9	117.0	226.9	51.2
1983	3,279.1	3,231.2	2,770.1	2,703.7	61.3	5.0	114.9	346.3	119.0	227.3	47.9
1984	3,501.4	3,457.5	2,990.1	2,916.6	68.5	5.0	117.6	349.8	120.5	229.3	43.9
1985	3,618.7	3,581.9	3,103.3	3,028.1	79.4	−4.3	121.3	357.4	122.3	235.0	36.9
1986	3,721.7	3,690.9	3,202.0	3,130.4	83.7	−12.1	125.5	363.3	122.5	240.8	30.9
1987	3,847.0	3,821.4	3,322.5	3,247.1	82.5	−7.0	129.0	369.9	123.5	246.4	25.6
1982: IV	3,159.3	3,111.3	2,654.1	2,567.1	80.3	6.7	113.8	343.5	117.6	225.9	48.0
1983: IV	3,365.1	3,316.6	2,853.2	2,795.3	55.6	2.3	115.8	347.5	119.4	228.1	48.5
1984: IV	3,535.2	3,493.1	3,022.2	2,953.0	71.1	−1.9	119.0	351.9	121.2	230.7	42.1
1985: IV	3,662.4	3,624.7	3,141.7	3,066.2	82.5	−7.1	123.2	359.9	122.5	237.4	37.6
1986: I	3,719.3	3,682.8	3,197.7	3,125.5	83.0	−10.8	124.2	360.9	122.4	238.5	36.5
II	3,711.6	3,682.9	3,195.1	3,120.7	82.9	−8.5	125.7	362.1	122.3	239.8	28.7
III	3,721.3	3,689.8	3,199.8	3,128.2	83.6	−12.0	125.9	364.0	122.4	241.7	31.5
IV	3,734.7	3,708.0	3,215.3	3,147.0	85.3	−17.0	126.4	366.2	122.9	243.4	26.8
1987: I	3,776.7	3,748.9	3,254.4	3,177.7	84.1	−7.4	127.0	367.5	123.0	244.5	27.8
II	3,823.0	3,798.4	3,300.9	3,221.1	82.0	−2.2	128.1	369.4	123.4	246.1	24.6
III	3,865.3	3,842.0	3,341.2	3,272.2	82.0	−13.0	130.0	370.8	123.7	247.1	23.3
IV	3,923.0	3,896.3	3,393.6	3,317.2	81.8	−5.4	130.7	372.0	123.9	248.1	26.7
1988: I	3,956.1	3,936.6	3,430.5	3,360.9	82.3	−12.8	133.3	372.8	123.9	249.0	19.5
II	3,985.2	3,967.0	3,458.9	3,393.1	70.1	−4.3	134.4	373.7	123.8	249.9	18.3
III	4,009.4	3,987.0	3,475.1	3,421.5	65.2	−11.6	136.8	375.2	124.2	251.0	22.4

[1] Includes compensation of employees in government enterprises.
[2] Compensation of government employees.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–10.—*Gross national product by industry, 1947–87*

[Billions of dollars]

Year	Gross national product	Gross domestic product												Rest of the world
		Agriculture, forestry, and fisheries	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale and retail trade	Finance, insurance, and real estate	Services	Government and government enterprises	Statistical discrepancy	
					Total	Durable goods	Nondurable goods							
1947	235.2	20.8	6.8	9.1	66.2	33.5	32.7	21.0	44.2	23.8	20.2	20.2	1.8	1.2
1948	261.6	24.0	9.4	11.5	74.7	38.2	36.6	23.7	48.4	26.9	21.9	20.8	−1.3	1.5
1949	260.4	19.5	8.1	11.5	72.2	37.1	35.0	23.9	48.0	29.2	22.6	23.2	.8	1.4
1950	288.3	20.8	9.3	13.2	84.0	45.9	38.1	26.6	51.5	32.2	24.2	24.2	.8	1.5
1951	333.4	23.9	10.2	15.6	99.0	55.5	43.4	30.2	56.8	35.5	26.4	31.2	2.7	2.0
1952	351.6	23.2	10.2	16.9	103.3	59.0	44.3	32.2	59.0	39.1	28.1	35.7	1.8	2.2
1953	371.6	21.4	10.7	17.5	112.5	66.1	46.4	34.2	60.4	43.3	30.2	36.8	2.6	2.1
1954	372.5	20.8	11.0	17.7	106.7	61.0	45.7	33.8	61.6	47.0	31.6	37.4	2.7	2.2
1955	405.9	20.0	12.5	19.1	121.3	70.8	50.4	36.8	67.0	50.7	35.1	39.0	1.8	2.6
1956	428.2	19.8	13.6	21.3	127.2	73.9	53.3	39.6	71.3	54.3	38.7	41.2	−1.9	3.0
1957	451.0	19.6	13.7	22.2	131.8	78.0	53.9	41.7	75.0	58.5	41.7	44.5	−1.2	3.4
1958	456.8	22.1	12.6	21.8	124.3	70.0	54.3	41.9	76.4	63.1	44.0	47.8	−.1	2.9
1959	495.8	20.4	12.5	23.7	141.8	81.6	60.3	45.1	83.3	68.2	48.3	50.8	−1.5	3.1
1960	515.3	21.7	12.8	24.3	144.4	82.5	61.9	47.3	85.7	72.8	51.4	54.2	−2.8	3.5
1961	533.8	21.8	12.9	25.3	145.0	81.6	63.3	48.9	88.0	76.9	54.9	57.6	−1.2	3.8
1962	574.6	22.3	13.1	27.1	158.6	91.9	66.8	51.9	94.1	81.7	59.2	62.1	.0	4.5
1963	606.9	22.3	13.4	28.9	168.1	98.0	70.1	54.8	98.2	86.5	63.3	67.0	−.6	4.9
1964	649.8	21.4	13.8	31.6	180.2	105.7	74.5	58.3	107.1	92.0	69.0	72.5	−1.4	5.4
1965	705.1	24.2	14.0	34.7	198.4	118.4	80.0	62.6	115.0	98.9	74.6	78.2	−1.2	5.8
1966	772.0	25.3	14.6	37.9	217.4	130.8	86.6	67.4	124.1	106.9	82.5	88.1	2.1	5.6
1967	816.4	24.9	15.2	39.7	222.9	133.7	89.2	70.7	132.9	115.6	90.6	98.4	−.4	6.0
1968	892.7	25.7	16.2	43.5	243.6	146.1	97.5	76.4	146.8	125.1	99.1	110.5	−1.1	6.8
1969	963.9	28.6	17.1	48.7	257.1	154.2	102.9	82.6	159.2	136.3	110.5	121.0	−3.9	6.8
1970	1,015.5	29.9	18.7	51.4	252.3	145.9	106.3	88.4	168.7	145.8	120.2	134.0	−1.1	7.3
1971	1,102.7	32.2	18.8	56.5	265.7	153.8	111.9	97.1	183.7	161.4	130.2	145.9	1.8	9.3
1972	1,212.8	37.4	20.2	63.0	292.5	172.6	119.9	108.0	202.6	174.8	144.6	160.1	−1.6	11.2
1973	1,359.3	56.2	23.4	70.4	326.4	195.4	131.0	118.7	225.6	190.5	163.2	173.1	−4.3	16.2
1974	1,472.8	55.0	36.9	74.5	338.5	201.7	136.7	129.1	246.0	206.7	179.4	189.0	−1.7	19.5
1975	1,598.4	56.3	41.3	76.5	357.3	206.3	151.0	141.7	273.7	221.7	199.8	210.1	2.5	17.5
1976	1,782.8	55.7	46.0	86.2	409.3	239.7	169.7	160.4	299.7	246.1	224.9	229.7	3.6	21.1
1977	1,990.5	58.9	50.2	97.9	465.3	277.7	187.7	178.9	332.8	280.3	253.4	247.4	.0	25.4
1978	2,249.7	70.1	56.5	115.6	518.8	317.4	201.4	201.0	373.5	326.3	289.1	270.3	−1.9	30.5
1979	2,508.2	83.1	72.7	131.4	561.8	345.2	216.5	216.1	415.8	363.3	328.7	292.4	−1.0	43.8
1980	2,732.0	77.2	107.3	137.7	581.0	351.8	229.2	240.8	438.8	400.6	374.0	322.1	4.9	47.6
1981	3,052.6	92.0	143.7	138.4	643.1	385.8	257.3	269.6	483.1	449.3	422.6	354.7	4.1	52.1
1982	3,166.0	89.6	132.1	140.9	634.6	362.5	272.1	288.4	506.5	475.1	463.6	383.9	−.1	51.2
1983	3,405.7	74.3	118.4	149.6	683.2	385.6	297.6	320.0	542.9	536.4	515.5	410.5	5.2	49.9
1984	3,772.2	92.9	119.4	171.5	771.9	451.1	320.8	354.4	614.0	572.8	580.2	442.5	5.4	47.4
1985	4,014.9	92.0	114.2	186.6	789.5	458.8	330.8	374.1	658.2	639.5	648.1	476.7	−4.8	40.7
1986	4,240.3	92.6	82.1	204.0	820.1	466.1	354.1	393.5	698.4	708.6	716.3	503.4	−13.6	34.9
1987	4,526.7	94.9	85.4	218.5	853.6	480.0	373.6	408.2	740.4	775.4	793.5	535.3	−8.1	29.5

Note.—The industry classification is on an establishment basis and is based on the 1972 Standard Industrial Classification.
Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–11.—*Gross national product by industry in 1982 dollars, 1947–87*

[Billions of 1982 dollars]

Year	Gross national product	Gross domestic product												Rest of the world
		Agriculture, forestry, and fisheries	Mining	Construction	Manufacturing			Transportation and public utilities	Wholesale and retail trade	Finance, insurance, and real estate	Services	Government and government enterprises	Statistical discrepancy	Residual [1]	
					Total	Durable goods	Nondurable goods								
1947	1,066.7	55.6	67.6	76.7	226.1	138.1	88.0	100.0	157.8	103.0	124.7	156.2	7.6	−13.6	5.1
1948	1,108.7	61.3	72.4	90.0	238.5	145.0	93.5	98.7	161.9	107.7	128.9	155.5	−4.9	−7.5	6.2
1949	1,109.0	61.0	65.7	89.4	226.3	133.2	93.1	90.7	166.1	112.2	129.0	164.0	3.2	−4.2	5.6
1950	1,203.7	64.3	72.8	100.0	257.7	156.7	101.0	95.3	182.1	119.7	133.8	169.2	3.1	−.6	6.2
1951	1,328.2	62.6	80.8	110.9	288.4	181.4	107.0	104.9	183.7	126.4	136.9	214.0	9.7	2.0	7.9
1952	1,380.0	64.2	81.5	115.9	298.2	190.6	107.6	104.5	189.5	134.7	139.4	231.9	6.5	5.3	8.3
1953	1,435.3	66.3	84.3	119.9	319.9	208.4	111.5	106.7	195.6	142.2	142.7	230.9	9.4	9.4	7.9
1954	1,416.2	68.2	83.3	124.8	296.6	185.8	110.8	104.1	197.1	149.5	145.9	225.4	9.5	3.5	8.4
1955	1,494.9	69.1	92.0	133.3	327.7	208.5	119.2	112.3	215.0	160.2	153.0	223.4	6.2	−6.6	9.4
1956	1,525.6	67.8	96.5	142.7	330.6	207.3	123.3	117.7	221.5	168.8	161.1	225.6	−6.2	−11.1	10.7
1957	1,551.1	65.9	96.2	142.4	332.5	208.7	123.8	119.9	225.1	178.3	168.6	229.2	−3.8	−14.7	11.5
1958	1,539.9	68.3	89.1	147.5	303.5	180.1	123.4	116.1	225.0	184.5	174.3	230.1	−.5	−8.1	9.5
1959	1,629.1	65.8	94.1	160.4	338.0	203.0	135.0	123.5	240.7	195.9	183.5	232.8	−4.6	−11.0	10.0
1960	1,665.3	68.3	94.2	163.1	338.7	202.4	136.3	127.8	245.4	206.5	190.2	240.3	−8.7	−11.6	11.1
1961	1,708.7	67.5	95.6	165.1	339.4	199.9	139.5	130.0	247.8	215.0	197.7	249.2	−3.7	−6.9	12.1
1962	1,799.4	67.1	98.1	172.5	368.3	220.5	147.8	136.3	263.9	226.5	207.7	258.4	.1	−13.3	13.9
1963	1,873.3	67.2	102.2	177.5	397.4	238.9	158.5	143.8	273.9	235.9	217.4	264.5	−1.8	−19.7	14.9
1964	1,973.3	65.2	105.7	185.9	425.4	259.3	166.2	150.4	290.7	245.8	230.7	274.0	−4.1	−12.6	16.1
1965	2,087.6	66.7	109.4	193.7	462.5	286.9	175.6	161.5	309.8	259.8	240.4	284.3	−3.4	−14.0	17.0
1966	2,208.3	62.4	115.0	194.4	497.9	312.3	185.6	174.2	326.5	271.1	253.9	305.5	5.9	−14.5	15.9
1967	2,271.4	65.5	120.2	190.7	496.6	311.9	184.7	178.1	335.4	282.4	265.2	322.3	−1.0	−.2	16.3
1968	2,365.6	63.6	124.7	190.2	522.0	326.2	195.8	189.5	354.8	296.0	274.7	332.6	−2.8	2.8	17.7
1969	2,423.3	65.3	128.9	183.6	536.7	334.1	202.6	200.3	361.7	314.0	287.8	340.2	−9.5	−2.7	17.0
1970	2,416.2	68.8	134.5	168.0	506.8	304.8	202.0	203.9	367.6	320.7	295.7	339.6	−2.7	−3.9	17.1
1971	2,484.8	70.6	132.4	162.7	515.5	305.5	210.0	209.8	385.7	335.9	302.4	340.0	4.2	4.8	20.7
1972	2,608.5	70.9	134.4	166.7	561.2	336.5	224.8	223.8	414.8	350.9	320.0	340.5	−3.4	5.1	23.7
1973	2,744.1	70.3	133.4	170.4	621.3	377.0	244.3	243.0	437.0	367.7	340.2	343.4	−8.6	−6.2	32.2
1974	2,729.3	69.7	130.3	162.3	591.6	363.5	228.1	248.8	426.2	381.6	347.5	350.6	−3.3	−11.8	35.9
1975	2,695.0	73.1	125.6	149.4	547.5	325.2	222.2	246.4	433.1	387.6	352.4	355.0	4.2	−8.7	29.3
1976	2,826.7	71.5	124.4	158.1	600.6	357.4	243.2	257.1	454.4	403.1	367.7	357.7	5.6	−6.6	33.0
1977	2,958.6	71.6	126.2	165.1	645.0	386.2	258.9	268.5	479.2	417.7	388.4	362.9	.1	−3.4	37.4
1978	3,115.2	71.8	128.8	176.7	683.4	415.9	267.5	284.8	502.3	442.5	411.9	371.5	−2.8	2.1	42.1
1979	3,192.4	76.1	130.0	173.5	697.1	423.5	273.5	293.4	511.7	459.2	429.8	376.2	−1.4	−9.0	55.7
1980	3,187.1	76.2	135.6	161.6	665.4	401.5	263.9	293.4	500.4	464.3	442.6	382.7	5.9	3.5	55.5
1981	3,248.8	88.0	139.8	147.4	676.1	404.9	271.2	296.2	507.3	474.2	462.5	385.3	4.4	12.5	55.2
1982	3,166.0	89.6	132.1	140.9	634.6	362.5	272.1	288.4	506.5	475.1	463.6	383.9	−.1	.6	51.2
1983	3,279.1	74.5	125.4	147.3	675.5	390.4	285.1	300.8	529.1	489.0	486.6	387.4	5.0	10.6	47.9
1984	3,501.4	82.2	133.0	159.2	757.9	466.8	291.1	320.4	578.9	506.6	514.8	392.1	5.0	8.1	43.9
1985	3,618.7	93.8	130.1	165.4	786.8	493.7	293.0	326.0	610.3	524.3	546.4	400.8	−4.3	2.3	36.9
1986	3,721.7	97.2	115.7	173.1	804.6	505.0	299.7	331.6	642.9	537.6	578.9	407.9	−12.1	13.5	30.9
1987	3,847.0	96.1	117.5	175.8	839.5	525.2	314.3	349.5	660.0	559.4	610.8	415.7	−7.0	4.2	25.6

[1] Equals GNP in constant dollars measured as the sum of incomes less GNP in constant dollars measured as the sum of gross product by industry.

Note.—The industry classification is on an establishment basis and is based on the 1972 Standard Industrial Classification.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–12.—*Gross domestic product of nonfinancial corporate business, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product of nonfinancial corporate business	Capital consumption allowances with capital consumption adjustment	Net domestic product												
			Total	Indirect business tax, etc.[1]	Domestic income										
					Total	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments								Net interest
							Total	Profits							
								Profits before tax	Profits tax liability	Profits after tax			Inventory valuation adjustment	Capital consumption adjustment	
										Total	Dividends	Undistributed profits			
1929	50.4	5.3	45.1	3.4	41.8	32.3	8.0	8.4	1.2	7.3	5.1	2.2	0.5	−0.9	1.4
1933	24.6	4.2	20.4	3.8	16.5	16.7	−1.9	.6	.5	.1	2.0	−1.9	−2.1	−.3	1.7
1939	44.0	4.8	39.1	5.1	34.1	28.2	4.4	6.1	1.4	4.7	3.3	1.4	−.7	−1.0	1.5
1940	50.6	5.0	45.6	5.5	40.2	31.2	7.6	8.8	2.7	6.1	3.5	2.6	−.2	−1.0	1.4
1941	65.9	5.4	60.5	6.4	54.1	39.8	13.0	16.4	7.5	9.0	3.9	5.0	−2.5	−1.0	1.3
1942	83.3	6.0	77.3	6.8	70.5	51.0	18.2	20.1	11.2	8.9	3.7	5.2	−1.2	−.7	1.3
1943	99.1	6.1	93.0	7.3	85.7	62.2	22.4	23.6	13.8	9.8	3.9	5.8	−.8	−.4	1.1
1944	102.6	6.2	96.4	8.1	88.3	65.1	22.2	22.2	12.6	9.6	4.1	5.6	−.3	.3	1.0
1945	95.8	6.3	89.5	8.9	80.6	61.9	17.7	17.8	10.2	7.6	4.1	3.5	−.6	.5	1.0
1946	99.8	7.4	92.4	10.1	82.3	67.2	14.4	22.0	8.6	13.4	4.8	8.6	−5.3	−2.3	.7
1947	121.2	9.0	112.2	11.9	100.3	79.1	20.4	29.1	10.8	18.3	5.5	12.8	−5.9	−2.8	.8
1948	138.9	10.5	128.4	13.2	115.2	87.7	26.6	31.8	11.8	20.0	6.0	14.0	−2.2	−3.0	.9
1949	135.2	11.2	123.9	13.9	110.1	85.2	23.9	24.9	9.3	15.6	6.0	9.6	1.9	−2.9	1.0
1950	153.6	12.1	141.5	15.3	126.2	94.7	30.6	38.5	16.9	21.6	7.5	14.1	−5.0	−2.9	.9
1951	176.3	13.9	162.4	16.5	146.0	110.2	34.7	39.1	21.2	17.9	7.1	10.8	−1.2	−3.2	1.1
1952	184.0	14.9	169.1	18.0	151.1	118.2	31.7	33.8	17.8	16.0	7.1	8.8	1.0	−3.0	1.2
1953	196.6	15.9	180.7	19.2	161.5	128.6	31.5	34.9	18.5	16.4	7.3	9.1	−1.0	−2.4	1.3
1954	193.5	16.8	176.7	18.6	158.1	126.4	30.1	32.1	15.6	16.4	7.4	9.0	−.3	−1.6	1.6
1955	218.5	17.9	200.7	20.6	180.0	138.4	40.0	42.0	20.2	21.8	8.5	13.4	−1.7	−.3	1.6
1956	233.6	20.1	213.5	22.4	191.1	151.3	38.1	41.8	20.1	21.8	9.0	12.7	−2.7	−1.1	1.8
1957	244.1	22.1	221.9	23.7	198.2	159.0	37.0	39.8	19.1	20.7	9.3	11.4	−1.5	−1.2	2.2
1958	238.0	23.2	214.8	24.1	190.7	155.8	32.2	33.7	16.2	17.5	9.3	8.2	−.3	−1.2	2.7
1959	267.1	24.3	242.8	26.2	216.7	171.5	42.1	43.1	20.7	22.4	10.0	12.4	−.3	−.8	3.1
1960	277.6	25.3	252.4	28.5	223.9	181.2	39.2	39.7	19.2	20.5	10.6	9.9	−.2	−.2	3.5
1961	285.2	26.0	259.1	29.8	229.4	185.3	40.1	39.5	19.5	20.1	10.6	9.5	.3	.3	4.0
1962	311.1	27.0	284.2	32.2	252.0	200.1	47.3	44.2	20.6	23.5	11.4	12.2	.0	3.1	4.5
1963	331.1	28.2	303.0	34.2	268.7	211.1	52.8	48.9	22.8	26.2	12.6	13.5	.1	3.9	4.8
1964	357.7	29.6	328.0	36.8	291.2	226.7	59.3	55.4	24.0	31.4	13.7	17.7	−.5	4.4	5.3
1965	392.7	31.6	361.1	39.4	321.7	246.5	69.1	65.2	27.2	38.0	15.6	22.4	−1.2	5.2	6.1
1966	430.2	34.5	395.7	40.7	355.0	274.0	73.7	70.3	29.5	40.8	16.8	24.0	−2.1	5.5	7.4
1967	452.6	37.8	414.8	43.3	371.5	292.3	70.5	66.5	27.8	38.6	17.5	21.2	−1.6	5.5	8.8
1968	499.7	41.7	458.0	49.9	408.1	323.2	74.8	73.1	33.6	39.5	19.1	20.4	−3.7	5.3	10.1
1969	542.2	45.7	496.6	54.9	441.6	358.8	69.6	69.6	33.3	36.2	19.1	17.1	−5.9	5.9	13.2
1970	560.4	50.2	510.2	59.0	451.2	378.7	55.4	57.0	27.2	29.8	18.5	11.3	−6.6	5.0	17.1
1971	605.1	55.1	550.0	64.7	485.3	402.0	65.2	65.6	29.9	35.6	18.5	17.1	−4.6	4.2	18.1
1972	671.8	60.5	611.3	69.4	541.9	447.1	75.7	76.8	33.8	43.0	20.1	22.9	−6.6	5.5	19.2
1973	753.0	65.6	687.4	76.5	610.8	505.9	82.4	96.9	40.2	56.7	21.1	35.6	−20.0	5.6	22.5
1974	812.8	76.8	736.0	81.5	654.5	556.8	69.4	107.2	42.2	65.0	21.7	43.3	−39.5	1.7	28.3
1975	881.5	92.5	789.0	88.3	700.7	580.4	91.6	109.2	41.5	67.7	24.8	42.9	−11.0	−6.6	28.7
1976	995.5	103.0	892.5	95.4	797.1	656.3	113.3	138.3	53.0	85.4	27.8	57.6	−14.9	−10.2	27.5
1977	1,126.1	115.1	1,010.9	104.4	906.5	741.0	134.9	160.5	59.9	100.6	32.0	68.6	−16.6	−9.0	30.6
1978	1,274.1	130.8	1,143.3	114.1	1,029.2	847.4	146.0	182.1	67.1	115.0	37.2	77.8	−25.3	−10.9	35.9
1979	1,417.4	150.7	1,266.7	122.1	1,144.7	962.0	139.1	195.8	69.6	126.2	39.3	86.9	−43.2	−13.5	43.5
1980	1,540.8	172.5	1,368.2	138.5	1,229.7	1,051.1	123.1	181.8	67.0	114.8	45.5	69.3	−43.1	−15.5	55.5
1981	1,738.4	200.2	1,538.1	165.9	1,372.3	1,160.5	144.2	181.5	63.9	117.6	53.4	64.2	−24.2	−13.1	67.5
1982	1,782.2	223.0	1,559.3	166.9	1,392.4	1,203.9	111.9	129.7	46.3	83.4	59.7	23.7	−10.4	−7.5	76.6
1983	1,914.2	229.8	1,684.4	182.9	1,501.5	1,266.1	165.6	159.3	59.4	99.9	66.5	33.4	−10.9	17.1	69.8
1984	2,146.7	240.1	1,906.6	204.2	1,702.5	1,399.8	222.4	196.0	73.5	122.5	69.5	53.0	−5.8	32.1	80.3
1985	2,267.1	252.6	2,014.5	218.4	1,796.1	1,489.8	225.3	170.2	69.9	100.4	72.2	28.2	−1.7	56.7	81.1
1986	2,371.6	264.1	2,107.5	227.7	1,879.8	1,564.9	230.6	172.6	76.8	95.8	74.8	21.1	8.3	49.6	84.3
1987	2,513.5	276.2	2,237.3	239.8	1,997.5	1,661.4	237.5	210.2	99.0	111.2	83.8	27.4	−18.0	45.3	98.6
1982: IV	1,779.4	229.7	1,549.7	169.7	1,379.9	1,206.5	100.1	116.3	41.0	75.4	62.2	13.2	−13.4	−2.8	73.4
1983: IV	2,012.5	232.2	1,780.3	189.6	1,590.7	1,319.7	199.5	183.2	70.6	112.7	68.8	43.9	−8.1	24.4	71.5
1984: IV	2,201.8	245.0	1,956.7	210.6	1,746.1	1,436.8	222.1	181.9	66.4	115.5	68.6	46.9	−1.6	41.8	87.2
1985: IV	2,309.4	257.4	2,051.9	221.5	1,830.4	1,524.0	226.3	174.2	71.6	102.6	72.3	30.3	−6.6	58.7	80.1
1986: I	2,344.9	259.7	2,085.2	227.8	1,857.4	1,543.2	232.2	155.9	69.0	87.0	72.2	14.8	21.0	55.3	82.0
II	2,348.8	262.8	2,086.0	221.5	1,864.4	1,551.7	229.5	167.2	73.7	93.5	76.6	16.9	11.8	50.6	83.2
III	2,383.6	265.3	2,118.3	231.2	1,887.1	1,569.6	232.4	176.2	78.2	98.1	74.0	24.1	8.7	47.5	85.1
IV	2,409.3	268.7	2,140.7	230.4	1,910.3	1,595.3	228.1	191.0	86.2	104.8	76.4	28.4	−8.1	45.2	86.9
1987: I	2,438.8	271.1	2,167.7	232.7	1,935.0	1,617.2	227.7	196.6	91.6	105.0	79.8	25.2	−14.4	45.5	90.1
II	2,482.7	274.5	2,208.3	238.4	1,969.8	1,640.5	233.3	207.9	97.2	110.6	80.7	29.9	−20.0	45.5	96.0
III	2,546.9	278.0	2,268.8	243.6	2,025.3	1,673.3	250.4	224.6	105.3	119.3	83.9	35.4	−19.5	45.3	101.6
IV	2,585.6	281.3	2,304.3	244.5	2,059.7	1,714.7	238.4	211.6	101.7	109.9	90.8	19.1	−18.2	45.0	106.6
1988: I	2,633.2	286.8	2,346.4	249.2	2,097.2	1,739.6	250.6	228.4	104.4	124.1	74.6	49.5	−19.4	41.5	107.1
II	2,684.0	290.0	2,394.0	253.0	2,141.1	1,777.8	252.6	240.5	109.4	131.1	86.2	44.9	−27.4	39.5	110.7
III	2,732.1	293.0	2,439.1	258.8	2,180.3	1,816.4	248.2	240.4	109.1	131.3	98.7	32.7	−29.3	37.1	115.7

[1] Indirect business tax and nontax liability plus business transfer payments less subsidies.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–13.—*Output, costs, and profits of nonfinancial corporate business, 1948–88*

[Quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product of nonfinancial corporate business (billions of dollars)		Current-dollar cost and profit per unit of output (dollars) [1]								Output per hour of all employees (1982 dollars)	Compensation per hour of all employees (dollars)
			Total cost and profit [2]	Capital consumption allowances with capital consumption adjustment	Indirect business tax, etc. [3]	Compensation of employees	Corporate profits with inventory valuation and capital consumption adjustments			Net interest		
	Current dollars	1982 dollars					Total	Profits tax liability	Profits after tax [4]			
1948	138.9	538.9	0.258	0.019	0.025	0.163	0.049	0.022	0.027	0.002		
1949	135.2	515.7	.262	.022	.027	.165	.046	.018	.028	.002		
1950	153.6	570.4	.269	.021	.027	.166	.054	.030	.024	.002		
1951	176.3	622.4	.283	.022	.026	.177	.056	.034	.022	.002		
1952	184.0	637.3	.289	.023	.028	.185	.050	.028	.022	.002		
1953	196.6	668.4	.294	.024	.029	.192	.047	.028	.020	.002		
1954	193.5	650.8	.297	.026	.029	.194	.046	.024	.022	.002		
1955	218.5	719.3	.304	.025	.029	.192	.056	.028	.028	.002		
1956	233.6	747.0	.313	.027	.030	.203	.051	.027	.024	.002		
1957	244.1	758.1	.322	.029	.031	.210	.049	.025	.024	.003		
1958	238.0	725.2	.328	.032	.033	.215	.044	.022	.022	.004	12.053	2.589
1959	267.1	798.5	.335	.030	.033	.215	.053	.026	.027	.004	12.506	2.685
1960	277.6	820.8	.338	.031	.035	.221	.048	.023	.024	.004	12.672	2.797
1961	285.2	839.1	.340	.031	.035	.221	.048	.023	.025	.005	13.058	2.884
1962	311.1	904.8	.344	.030	.036	.221	.052	.023	.029	.005	13.550	2.997
1963	331.1	964.4	.343	.029	.035	.219	.055	.024	.031	.005	14.135	3.093
1964	357.7	1,029.0	.348	.029	.036	.220	.058	.023	.034	.005	14.655	3.229
1965	392.7	1,111.7	.353	.028	.035	.222	.062	.024	.038	.005	14.979	3.321
1966	430.2	1,189.5	.362	.029	.034	.230	.062	.025	.037	.006	15.205	3.502
1967	452.6	1,217.0	.372	.031	.036	.240	.058	.023	.035	.007	15.344	3.685
1968	499.7	1,286.5	.388	.032	.039	.251	.058	.026	.032	.008	15.715	3.948
1969	542.2	1,339.6	.405	.034	.041	.268	.052	.025	.027	.010	15.700	4.206
1970	560.4	1,325.2	.423	.038	.045	.286	.042	.021	.021	.013	15.713	4.490
1971	605.1	1,360.6	.445	.040	.048	.295	.048	.022	.026	.013	16.158	4.774
1972	671.8	1,461.1	.460	.041	.048	.306	.052	.023	.029	.013	16.490	5.045
1973	753.0	1,569.7	.480	.042	.049	.322	.053	.026	.027	.014	16.832	5.425
1974	812.8	1,533.4	.530	.050	.053	.363	.045	.028	.018	.018	16.331	5.930
1975	881.5	1,488.1	.592	.062	.059	.390	.062	.028	.034	.019	16.691	6.510
1976	995.5	1,583.5	.629	.065	.060	.414	.072	.033	.038	.017	16.986	7.040
1977	1,126.1	1,686.6	.668	.068	.062	.439	.080	.036	.044	.018	17.257	7.581
1978	1,274.1	1,789.8	.712	.073	.064	.473	.082	.037	.044	.020	17.358	8.219
1979	1,417.4	1,840.4	.770	.082	.066	.523	.076	.038	.038	.024	17.221	9.002
1980	1,540.8	1,807.9	.852	.095	.077	.581	.068	.037	.031	.031	17.096	9.939
1981	1,738.4	1,837.2	.946	.109	.090	.632	.078	.035	.044	.037	17.194	10.861
1982	1,782.2	1,782.2	1.000	.125	.094	.676	.063	.026	.037	.043	17.318	11.699
1983	1,914.2	1,886.0	1.026	.123	.098	.679	.089	.032	.057	.037	17.865	12.122
1984	2,146.7	2,036.5	1.054	.118	.100	.687	.109	.036	.073	.039	18.287	12.569
1985	2,267.1	2,117.4	1.071	.119	.103	.704	.106	.033	.073	.038	18.584	13.075
1986	2,371.6	2,177.2	1.089	.121	.105	.719	.106	.035	.071	.039	18.927	13.605
1987	2,513.5	2,270.4	1.107	.122	.106	.732	.105	.044	.061	.043	19.216	14.062
1982: IV	1,779.4	1,760.2	1.011	.131	.096	.685	.057	.023	.034	.042	17.383	11.914
1983: IV	2,012.5	1,940.5	1.037	.120	.098	.680	.103	.036	.066	.037	18.029	12.261
1984: IV	2,201.8	2,069.5	1.064	.118	.102	.694	.107	.032	.075	.042	18.359	12.746
1985: IV	2,309.4	2,137.7	1.080	.120	.104	.713	.106	.033	.072	.037	18.639	13.288
1986: I	2,344.9	2,172.3	1.079	.120	.105	.710	.107	.032	.075	.038	18.901	13.427
II	2,348.8	2,163.2	1.086	.122	.102	.717	.106	.034	.072	.038	18.864	13.532
III	2,383.6	2,174.2	1.096	.122	.106	.722	.107	.036	.071	.039	18.921	13.660
IV	2,409.3	2,199.0	1.096	.122	.105	.725	.104	.039	.065	.040	19.043	13.815
1987: I	2,438.8	2,215.0	1.101	.122	.105	.730	.103	.041	.061	.041	18.996	13.869
II	2,482.7	2,248.0	1.104	.122	.106	.730	.104	.043	.061	.043	19.142	13.969
III	2,546.9	2,296.1	1.109	.121	.106	.729	.109	.046	.063	.044	19.362	14.110
IV	2,585.6	2,322.5	1.113	.121	.105	.738	.103	.044	.059	.046	19.357	14.291
1988: I	2,633.2	2,363.5	1.114	.121	.105	.736	.106	.044	.062	.045	19.560	14.397
II	2,684.0	2,380.9	1.127	.122	.106	.747	.106	.046	.060	.047	19.481	14.546
III	2,732.1	2,395.5	1.140	.122	.108	.758	.104	.046	.058	.048	19.428	14.739

[1] Output is measured by gross domestic product of nonfinancial corporate business in 1982 dollars.

[2] This is equal to the deflator for gross domestic product of nonfinancial corporate business with the decimal point shifted two places to the left.

[3] Indirect business tax and nontax liability plus business transfer payments less subsidies.

[4] With inventory valuation and capital consumption adjustments.

Sources: Department of Commerce (Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

TABLE B–14.—*Personal consumption expenditures, 1940–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal consumption expenditures	Durable goods			Nondurable goods					Services					
		Total [1]	Motor vehicles and parts	Furniture and household equipment	Total [1]	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total [1]	Housing [2]	Household operation		Transportation	Medical care
												Total [1]	Electricity and gas		
1940	71.0	7.8	2.8	3.8	37.0	20.2	7.5	2.3	1.5	26.2	9.7	4.0	1.5	2.1	2.2
1941	80.8	9.7	3.5	4.8	42.9	23.4	8.8	2.6	1.7	28.3	10.4	4.3	1.5	2.4	2.4
1942	88.6	6.9	.7	4.6	50.8	28.4	11.0	2.1	1.9	31.0	11.2	4.8	1.6	2.7	2.7
1943	99.5	6.5	.8	3.9	58.6	33.2	13.4	1.3	2.0	34.3	11.8	5.2	1.7	3.4	2.9
1944	108.2	6.7	.8	3.8	64.3	36.7	14.6	1.4	2.0	37.2	12.3	5.9	1.8	3.7	3.3
1945	119.6	8.0	1.0	4.5	71.9	40.6	16.5	1.8	2.2	39.7	12.8	6.4	1.9	4.0	3.6
1946	143.9	15.8	4.1	8.4	82.7	47.4	18.2	3.4	2.5	45.4	14.2	6.8	2.1	5.0	4.6
1947	161.9	20.4	6.6	10.6	90.9	52.3	18.8	4.0	3.0	50.6	16.0	7.5	2.3	5.3	5.6
1948	174.9	22.9	8.0	11.5	96.6	54.2	20.1	4.8	3.4	55.5	17.9	8.1	2.6	5.8	6.3
1949	178.3	25.0	10.6	11.3	94.9	52.5	19.3	5.3	3.1	58.4	19.6	8.5	2.9	5.9	6.5
1950	192.1	30.8	13.7	13.7	98.2	53.9	19.6	5.5	3.4	63.2	21.7	9.5	3.3	6.2	6.9
1951	208.1	29.9	12.2	14.1	109.2	60.7	21.3	6.1	3.5	69.0	24.3	10.4	3.7	6.8	7.4
1952	219.1	29.3	11.3	14.0	114.7	64.1	22.0	6.8	3.5	75.1	27.0	11.2	4.1	7.3	8.3
1953	232.6	32.7	13.9	14.7	117.8	65.4	22.2	7.4	3.4	82.1	29.9	12.1	4.5	8.0	9.3
1954	239.8	32.1	13.0	14.8	119.7	66.8	22.3	7.8	3.5	88.0	32.3	12.7	5.0	8.2	10.2
1955	257.9	38.9	17.8	16.4	124.7	68.6	23.3	8.6	3.8	94.3	34.4	14.2	5.5	8.5	10.8
1956	270.6	38.2	15.8	17.3	130.8	71.4	24.4	9.4	3.9	101.6	36.7	15.4	6.1	8.9	11.7
1957	285.3	39.7	17.3	17.2	137.1	75.1	24.5	10.2	4.1	108.5	39.3	16.3	6.5	9.4	12.8
1958	294.6	37.2	14.8	16.9	141.7	77.9	24.9	10.6	4.2	115.7	42.0	17.4	7.1	9.7	14.0
1959	316.3	42.8	18.9	18.1	148.5	80.7	26.4	11.3	4.0	125.0	45.0	18.7	7.6	10.5	15.3
1960	330.7	43.5	19.7	18.0	153.2	82.7	27.0	12.0	3.8	134.0	48.2	20.3	8.3	11.2	16.4
1961	341.1	41.9	17.8	18.3	157.4	84.8	27.6	12.0	3.8	141.8	51.2	21.2	8.8	11.7	17.5
1962	361.9	47.0	21.5	19.3	163.8	87.1	29.0	12.6	3.8	151.1	54.7	22.4	9.4	12.2	19.4
1963	381.7	51.8	24.4	20.7	169.4	89.5	29.8	13.0	4.0	160.6	58.0	23.6	9.9	12.7	21.0
1964	409.3	56.8	26.0	23.2	179.7	94.6	32.4	13.6	4.1	172.8	61.4	25.0	10.4	13.4	24.1
1965	440.7	63.5	29.9	25.1	191.9	101.0	34.1	14.8	4.4	185.4	65.4	26.5	10.9	14.5	25.9
1966	477.3	68.5	30.3	28.2	208.5	109.0	37.4	16.0	4.7	200.3	69.5	28.2	11.5	15.9	28.3
1967	503.6	70.6	30.0	30.0	216.9	112.3	39.2	17.1	4.8	216.0	74.1	30.1	12.2	17.3	31.1
1968	552.5	81.0	36.1	32.9	235.0	121.6	43.2	18.6	4.7	236.4	79.7	32.3	13.0	18.9	35.7
1969	597.9	86.2	38.4	34.7	252.2	130.5	46.5	20.5	4.6	259.4	86.8	35.0	14.0	20.9	40.9
1970	640.0	85.7	35.9	35.7	270.3	142.1	47.8	21.9	4.4	284.0	94.0	37.7	15.2	23.7	46.1
1971	691.6	97.6	44.9	37.8	283.3	147.5	51.7	23.2	4.6	310.7	102.7	40.9	16.6	27.1	51.8
1972	757.6	111.2	51.5	42.4	305.1	158.5	56.4	24.4	5.1	341.3	112.1	45.2	18.4	29.8	57.8
1973	837.2	124.7	56.7	47.9	339.6	176.1	62.5	28.1	6.3	373.0	123.1	49.6	20.0	31.2	64.4
1974	916.5	123.8	50.3	51.5	380.9	198.2	66.0	36.1	7.8	411.9	135.1	55.4	23.5	33.3	72.4
1975	1,012.8	135.4	55.8	54.5	416.2	218.7	70.8	39.7	8.4	461.2	148.4	63.5	28.5	35.7	84.2
1976	1,129.3	161.5	72.7	60.2	452.0	236.2	76.6	43.0	10.1	515.9	163.5	72.3	32.5	41.3	95.9
1977	1,257.2	184.5	85.4	67.1	490.4	255.9	84.1	46.9	11.1	582.3	182.4	81.7	37.6	49.2	111.5
1978	1,403.5	205.6	95.1	73.9	541.8	282.2	94.8	51.3	12.0	656.1	205.2	90.9	42.1	53.5	125.1
1979	1,566.8	219.0	96.9	82.1	613.2	317.3	102.2	66.1	15.8	734.6	231.1	100.3	46.8	59.0	141.4
1980	1,732.6	219.3	90.3	86.2	681.4	349.1	109.0	83.7	18.0	831.9	261.5	113.9	56.4	64.5	164.2
1981	1,915.1	239.9	100.5	92.7	740.6	376.5	119.9	92.7	19.4	934.7	295.6	127.5	63.5	68.3	193.5
1982	2,050.7	252.7	108.9	95.7	771.0	398.8	124.4	89.1	18.6	1,027.0	321.1	143.4	72.8	69.7	217.8
1983	2,234.5	289.1	130.4	107.1	816.7	421.9	135.1	90.2	17.5	1,128.7	344.1	156.0	80.0	74.8	238.3
1984	2,430.5	335.5	157.4	118.8	867.3	448.5	146.7	90.0	17.8	1,227.6	371.3	166.9	84.8	82.0	265.3
1985	2,629.0	372.2	179.1	129.9	911.2	471.6	156.4	90.6	18.5	1,345.6	403.0	175.3	88.9	89.8	291.5
1986	2,807.5	406.5	196.4	140.0	943.6	501.0	167.0	73.3	16.7	1,457.3	434.3	179.9	87.4	95.8	320.1
1987	3,012.1	421.9	195.8	148.3	997.9	526.4	178.2	77.0	16.2	1,592.3	467.7	186.3	88.8	106.2	360.3
1982: IV	2,117.0	263.8	115.7	99.1	786.6	407.0	126.5	89.8	18.2	1,066.5	330.3	148.0	74.8	71.1	226.9
1983: IV	2,315.8	310.0	144.4	112.4	837.9	430.8	141.1	91.9	18.1	1,167.9	353.8	161.4	84.1	77.6	246.9
1984: IV	2,493.4	346.7	162.3	122.7	879.6	456.1	149.8	89.0	16.8	1,267.1	382.2	169.3	86.3	84.5	275.3
1985: IV	2,700.4	373.2	173.8	134.7	932.7	482.5	160.6	91.0	19.7	1,394.5	416.2	179.0	90.2	92.1	304.3
1986: I	2,739.0	381.4	179.4	135.9	938.4	490.3	163.0	86.3	18.2	1,419.2	422.6	177.1	86.8	94.0	309.3
II	2,772.1	393.0	187.7	138.8	937.2	498.0	167.0	71.7	16.7	1,441.9	430.4	180.2	88.1	94.5	314.9
III	2,842.8	429.9	217.5	142.0	944.7	503.2	168.7	68.9	16.2	1,468.2	438.1	181.5	87.9	96.2	323.2
IV	2,876.0	421.8	201.0	143.3	954.1	512.6	169.4	66.3	15.7	1,500.1	446.3	180.7	86.7	98.6	333.0
1987: I	2,921.7	403.5	181.7	145.9	977.5	521.0	174.5	72.1	15.7	1,540.7	455.4	180.0	84.9	102.1	344.0
II	2,992.2	420.5	194.5	147.8	995.3	525.3	176.8	77.4	16.3	1,576.4	462.6	187.3	90.6	104.6	355.7
III	3,058.2	441.4	212.9	150.2	1,006.6	528.4	180.4	79.3	16.0	1,610.2	471.1	189.6	90.8	105.8	367.3
IV	3,076.3	422.0	194.0	149.4	1,012.4	530.9	181.2	79.3	16.6	1,641.9	481.8	188.2	88.8	112.0	374.4
1988: I	3,128.1	437.8	202.2	154.7	1,016.2	535.9	180.5	76.3	17.0	1,674.1	490.1	190.9	90.2	111.3	384.9
II	3,194.6	449.8	208.7	159.5	1,036.6	546.3	183.2	78.8	17.2	1,708.2	496.4	193.5	90.9	116.4	396.6
III	3,261.2	452.9	210.2	159.5	1,060.8	558.9	188.4	80.5	17.4	1,747.5	506.0	199.7	94.6	118.5	410.4

[1] Includes other items not shown separately.
[2] Includes imputed rental value of owner-occupied housing.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–15.—*Personal consumption expenditures in 1982 dollars, 1940–88*

[Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal consumption expenditures	Durable goods			Nondurable goods					Services					
		Total[1]	Motor vehicles and parts	Furniture and household equipment	Total[1]	Food	Clothing and shoes	Gasoline and oil	Fuel oil and coal	Total[1]	Housing[2]	Household operation		Transportation	Medical care
												Total[1]	Electricity and gas		
1940	502.6	40.6	18.6	17.6	259.4	150.6	36.3	17.2	23.8	202.7	53.6	32.4	7.1	17.7	21.6
1941	531.1	46.2	20.6	20.4	275.6	158.3	38.9	19.2	24.6	209.3	56.0	32.0	7.3	19.7	22.4
1942	527.6	31.3	8.4	17.4	279.1	161.8	40.3	14.5	25.3	217.2	58.1	33.4	7.9	21.9	23.7
1943	539.9	28.1	7.7	14.0	284.7	166.3	43.0	9.2	25.7	227.2	59.8	31.2	8.2	26.9	24.1
1944	557.1	26.3	7.1	12.4	297.9	178.5	41.7	9.5	25.5	232.9	61.9	31.5	8.6	29.2	25.9
1945	592.7	28.7	7.4	13.7	323.5	193.0	43.4	12.5	27.2	240.5	62.6	32.4	9.2	31.0	26.5
1946	655.0	47.8	15.2	22.9	344.2	202.2	44.7	22.7	29.2	262.9	67.2	35.1	10.3	35.9	31.1
1947	666.6	56.5	21.8	25.7	337.4	193.9	42.5	24.1	30.8	272.6	72.8	37.6	11.7	35.3	33.8
1948	681.8	61.7	25.5	27.1	338.7	191.5	42.7	25.7	31.0	281.4	76.5	39.0	12.8	35.1	36.7
1949	695.4	67.8	32.7	26.4	342.3	193.6	43.0	27.9	27.3	285.3	80.9	40.1	13.7	33.2	37.8
1950	733.2	80.7	41.3	30.1	352.8	196.6	44.3	29.0	29.4	299.8	86.1	43.8	15.6	32.4	40.1
1951	748.7	74.7	36.3	28.9	362.9	202.5	43.7	31.5	29.3	311.1	91.9	46.2	17.6	33.2	42.0
1952	771.4	73.0	34.1	28.9	376.6	209.8	45.8	34.1	28.5	321.9	97.5	47.0	19.0	33.4	44.2
1953	802.5	80.2	39.9	29.9	388.2	217.7	46.2	36.0	27.6	334.1	102.5	48.9	20.4	34.2	46.6
1954	822.7	81.5	40.6	30.1	393.8	222.0	46.2	37.1	28.1	347.4	107.1	50.5	22.4	33.3	49.5
1955	873.8	96.9	51.5	33.7	413.2	231.3	48.6	40.3	29.9	363.6	112.1	55.5	24.2	34.2	51.0
1956	899.8	92.8	45.3	34.9	426.9	238.8	49.7	42.8	29.9	380.1	117.1	59.3	26.4	35.6	53.9
1957	919.7	92.4	45.8	33.7	434.7	243.5	49.3	44.4	29.7	392.6	122.6	61.2	28.0	36.2	56.8
1958	932.9	86.9	40.8	33.2	439.9	243.5	49.9	46.5	30.8	406.1	127.7	63.3	29.5	35.4	60.5
1959	979.4	96.9	47.4	35.5	455.8	252.1	52.3	48.9	29.4	426.7	133.6	65.7	31.2	36.8	64.0
1960	1,005.1	98.0	49.2	34.9	463.3	255.5	52.7	50.7	28.5	443.9	139.8	68.7	32.9	37.9	66.5
1961	1,025.2	93.6	44.6	35.3	470.1	259.7	53.7	51.0	26.7	461.4	145.7	70.9	34.6	38.2	69.1
1962	1,069.0	103.0	51.0	37.4	484.2	263.7	56.0	53.2	26.7	481.8	153.0	74.4	37.1	39.6	74.3
1963	1,108.4	111.8	56.4	39.9	494.3	266.5	56.9	54.7	28.0	502.3	159.4	77.0	38.8	41.2	79.1
1964	1,170.6	120.8	59.0	44.7	517.5	277.2	61.5	57.4	29.5	532.3	166.1	80.5	40.8	43.4	88.0
1965	1,236.4	134.6	67.5	48.5	543.2	290.4	64.0	60.2	31.0	558.5	174.4	83.9	42.7	45.5	91.4
1966	1,298.9	144.4	68.5	53.8	569.3	299.4	68.3	63.9	31.8	585.3	181.7	87.7	44.9	48.3	95.2
1967	1,337.7	146.2	67.4	55.8	579.2	304.0	68.8	66.0	31.8	612.3	189.3	91.9	47.4	51.4	98.3
1968	1,405.9	161.6	77.3	59.2	602.4	317.0	71.7	70.6	30.1	641.8	197.9	95.1	49.7	54.7	105.2
1969	1,456.7	167.8	80.4	60.9	617.2	324.3	73.0	75.2	28.6	671.7	207.6	99.3	52.4	58.1	113.6
1970	1,492.0	162.5	73.5	61.1	632.5	334.5	72.0	79.9	26.7	697.0	216.1	102.2	54.4	59.8	120.4
1971	1,538.8	178.3	86.4	63.5	640.3	335.9	75.3	83.6	25.9	720.2	224.5	103.6	55.8	62.1	128.2
1972	1,621.9	200.4	98.3	70.2	665.5	344.2	80.3	87.0	28.6	756.0	235.5	108.6	58.5	66.0	136.0
1973	1,689.6	220.3	106.7	77.9	683.2	340.8	86.0	91.7	30.9	786.1	246.5	112.6	59.8	67.8	145.4
1974	1,674.0	204.9	90.3	78.2	666.1	336.6	84.9	87.2	24.3	803.1	258.6	112.8	60.2	68.4	151.3
1975	1,711.9	205.6	91.1	75.9	676.5	346.4	88.1	89.8	24.2	829.8	265.7	117.5	63.3	69.4	159.9
1976	1,803.9	232.3	109.6	80.6	708.8	363.6	92.2	93.4	27.0	862.8	273.2	122.3	65.5	72.6	167.8
1977	1,883.9	253.9	121.2	87.3	731.4	377.1	97.4	96.4	26.1	898.5	279.6	128.2	68.1	77.8	177.8
1978	1,961.0	267.4	125.9	92.3	753.7	379.6	107.1	100.9	26.9	939.8	292.8	134.0	70.7	80.2	184.8
1979	2,004.4	266.5	119.4	97.1	766.6	387.5	112.1	97.1	26.2	971.2	304.1	138.3	71.1	82.9	192.2
1980	2,000.4	245.9	103.8	95.4	762.6	394.9	114.8	88.4	21.6	991.9	312.5	142.6	73.1	77.4	200.6
1981	2,024.2	250.8	106.3	96.5	764.4	392.5	122.2	87.8	19.2	1,009.0	318.9	142.0	72.0	73.3	212.0
1982	2,050.7	252.7	108.9	95.7	771.0	398.8	124.4	89.1	18.6	1,027.0	321.1	143.4	72.8	69.7	217.8
1983	2,146.0	283.1	126.8	106.1	800.2	414.0	132.6	93.2	18.6	1,062.7	325.4	146.2	74.2	71.4	222.3
1984	2,249.3	323.1	148.0	118.4	825.9	422.8	142.2	94.5	18.5	1,100.3	333.0	148.8	75.4	75.9	232.0
1985	2,354.8	355.1	164.4	131.0	847.4	435.5	147.2	94.4	19.6	1,152.3	341.7	151.6	77.5	82.1	240.9
1986	2,455.2	385.0	176.4	143.2	879.5	448.0	157.6	97.3	22.0	1,190.7	348.3	152.1	76.6	85.4	251.5
1987	2,521.0	390.9	170.4	151.0	890.5	450.4	160.5	98.3	21.1	1,239.5	358.3	157.0	79.0	89.3	268.2
1982: IV	2,078.7	262.0	115.0	98.4	778.6	404.6	126.2	89.7	17.6	1,038.1	322.1	143.1	71.6	69.1	220.7
1983: IV	2,191.9	300.5	138.1	111.1	812.7	418.2	137.4	94.4	19.4	1,078.6	328.2	149.4	76.9	72.6	224.6
1984: IV	2,281.1	333.1	151.6	122.7	831.2	426.2	143.5	94.7	18.0	1,116.8	335.8	148.9	75.7	78.0	235.7
1985: IV	2,386.9	356.4	158.9	136.6	858.3	441.0	149.9	94.5	20.5	1,172.2	344.4	153.9	79.1	83.8	245.2
1986: I	2,415.1	363.3	163.1	138.2	870.4	446.6	154.0	96.7	20.7	1,181.4	345.8	150.6	75.5	84.5	247.7
II	2,440.9	374.2	169.6	142.2	880.9	450.3	158.8	96.0	21.8	1,185.8	346.9	152.1	76.7	84.6	249.4
III	2,478.6	405.1	194.3	145.4	881.4	445.6	159.1	98.4	22.7	1,192.0	349.1	152.6	76.9	86.0	252.3
IV	2,486.2	397.3	178.5	147.1	885.3	449.5	158.6	98.1	22.8	1,203.6	351.3	153.2	77.4	86.5	256.6
1987: I	2,490.2	378.3	160.7	148.5	889.9	452.9	160.7	97.3	21.3	1,222.0	355.0	157.7	76.0	87.6	261.4
II	2,516.6	391.3	169.9	151.0	889.8	450.1	158.2	99.6	21.3	1,235.5	357.1	158.1	80.5	88.9	266.6
III	2,545.2	406.5	184.2	152.7	891.9	449.4	162.9	97.8	20.4	1,246.8	359.3	159.2	80.5	90.1	270.9
IV	2,531.7	387.6	166.7	151.9	890.5	449.2	160.3	98.4	21.4	1,253.6	361.7	158.1	79.2	90.8	274.0
1988: I	2,559.8	401.1	173.5	157.3	892.7	451.4	159.6	98.8	22.0	1,265.9	363.6	160.4	80.5	91.7	276.9
II	2,579.0	410.6	179.0	161.8	893.6	453.2	156.3	99.8	21.8	1,274.8	365.6	161.1	80.6	92.9	279.5
III	2,603.8	410.4	178.7	161.0	904.5	453.8	164.2	99.5	22.4	1,288.9	367.7	165.9	83.8	94.2	283.4

[1] Includes other items not shown separately.
[2] Includes imputed rental value of owner-occupied housing.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–16.—*Gross and net private domestic investment, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross private domestic investment	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net private domestic investment						
			Total	Net fixed investment					Change in business inventories
				Total	Nonresidential			Residential	
					Total	Structures	Producers' durable equipment		
1929	16.7	9.9	6.7	5.0	3.3	1.8	1.4	1.7	1.7
1933	1.6	7.6	−6.1	−4.5	−3.5	−1.7	−1.8	−1.0	−1.6
1939	9.5	9.0	.5	.1	−.7	−1.1	.4	.8	.4
1940	13.4	9.4	4.1	1.9	.7	−.8	1.5	1.2	2.2
1941	18.3	10.3	8.0	3.5	2.0	−.3	2.3	1.5	4.5
1942	10.3	11.3	−1.0	−2.7	−2.1	−1.7	−.5	−.6	1.8
1943	6.2	11.6	−5.3	−4.7	−3.1	−2.4	−.7	−1.6	−.6
1944	7.7	12.0	−4.2	−3.2	−1.3	−1.9	.5	−1.9	−1.0
1945	11.3	12.4	−1.1	−.1	1.7	−1.0	2.8	−1.8	−1.0
1946	31.5	14.2	17.3	10.9	6.9	2.4	4.5	4.0	6.4
1947	35.0	17.6	17.5	17.9	10.7	1.9	8.7	7.3	−.5
1948	47.1	20.4	26.7	22.0	11.8	2.5	9.3	10.2	4.7
1949	36.5	22.0	14.5	17.6	8.7	2.2	6.5	8.9	−3.1
1950	55.1	23.6	31.5	24.6	10.3	2.8	7.5	14.4	6.8
1951	60.5	27.2	33.3	23.1	11.6	3.9	7.7	11.5	10.2
1952	53.5	29.2	24.4	21.3	10.1	3.8	6.4	11.2	3.1
1953	54.9	30.9	24.0	23.6	11.9	4.8	7.1	11.7	.4
1954	54.1	32.5	21.6	23.3	10.2	5.0	5.2	13.0	−1.6
1955	69.7	34.4	35.3	29.6	13.2	5.9	7.3	16.4	5.7
1956	72.7	38.1	34.6	29.9	15.6	7.9	7.7	14.4	4.6
1957	71.1	41.1	29.9	28.5	15.9	7.9	8.1	12.6	1.4
1958	63.6	42.8	20.8	22.3	9.6	6.3	3.2	12.7	−1.5
1959	80.2	44.6	35.5	29.8	12.1	6.4	5.7	17.7	5.8
1960	78.2	46.4	31.8	28.7	13.4	7.3	6.1	15.4	3.1
1961	77.1	47.8	29.4	27.0	11.9	7.3	4.6	15.1	2.4
1962	87.6	49.4	38.2	32.1	14.9	8.0	6.9	17.2	6.1
1963	93.1	51.4	41.8	35.9	16.0	7.9	8.1	19.9	5.8
1964	99.6	53.9	45.7	40.3	20.3	9.4	10.9	20.0	5.4
1965	116.2	57.4	58.8	48.9	29.3	13.2	16.1	19.6	9.9
1966	128.6	62.1	66.5	52.3	35.8	15.2	20.7	16.5	14.2
1967	125.7	67.4	58.3	48.0	32.3	14.4	18.0	15.7	10.3
1968	137.0	73.9	63.1	55.2	34.2	15.1	19.0	21.0	7.9
1969	153.2	81.4	71.8	62.0	39.8	17.4	22.4	22.2	9.8
1970	148.8	88.8	60.0	56.9	36.8	17.4	19.4	20.1	3.1
1971	172.5	97.5	74.9	67.2	34.5	16.8	17.7	32.7	7.8
1972	202.0	107.9	94.1	83.6	40.5	17.4	23.1	43.1	10.5
1973	238.8	118.1	120.7	101.1	56.2	21.7	34.4	45.0	19.6
1974	240.8	137.5	103.4	87.9	55.8	22.0	33.7	32.2	15.4
1975	219.6	161.8	57.8	63.4	37.5	15.6	21.9	25.9	−5.6
1976	277.7	179.2	98.4	82.4	40.9	16.0	24.8	41.6	16.0
1977	344.1	201.5	142.5	121.3	58.6	17.6	41.0	62.6	21.3
1978	416.8	229.9	186.9	158.3	82.2	25.0	57.2	76.1	28.6
1979	454.8	265.8	189.1	176.1	98.9	34.5	64.5	77.2	13.0
1980	437.0	303.8	133.1	141.5	88.9	39.4	49.5	52.6	−8.3
1981	515.5	347.8	167.7	143.7	98.6	51.7	46.9	45.0	24.0
1982	447.3	383.2	64.1	88.7	65.5	45.9	19.6	23.2	−24.5
1983	502.3	396.6	105.7	112.8	45.8	25.9	19.9	67.0	−7.1
1984	664.8	415.5	249.4	181.7	91.1	39.3	51.8	90.6	67.7
1985	643.1	437.2	205.9	194.5	102.1	45.8	56.3	92.4	11.3
1986	665.9	455.9	210.0	194.5	78.2	28.1	50.0	116.3	15.5
1987	712.9	480.0	233.0	193.7	74.6	24.4	50.2	119.1	39.2
1982: IV	409.6	393.2	16.4	76.3					−59.9
1983: IV	579.8	400.8	179.0	148.0					31.0
1984: IV	661.8	423.5	238.3	193.3					45.0
1985: IV	654.1	446.9	207.1	199.9					7.2
1986: I	686.6	447.8	238.8	194.8					44.0
II	667.8	453.5	214.3	194.8					19.5
III	653.0	457.9	195.1	194.4					.7
IV	656.4	464.4	192.1	194.0					−2.0
1987: I	685.5	468.7	216.8	179.1					37.7
II	698.5	477.0	221.5	188.8					32.7
III	702.8	484.6	218.2	203.7					14.5
IV	764.9	489.5	275.4	203.3					72.0
1988: I	763.4	498.3	265.1	199.8					65.3
II	758.1	503.2	254.8	211.1					43.7
III	772.5	507.7	264.8	215.1					49.7

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–17.—*Gross and net private domestic investment in 1982 dollars, 1929–88*

[Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross private domestic investment	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net private domestic investment						
			Total	Net fixed investment					Change in business inventories
				Total	Nonresidential			Residential	
					Total	Structures	Producers' durable equipment		
1929	139.2	86.8	52.4	41.6	26.2	16.8	9.4	15.4	10.8
1933	22.7	86.5	−63.8	−53.0	−40.2	−24.3	−16.0	−12.8	−10.7
1939	86.0	84.4	1.6	−2.3	−10.1	−12.0	1.9	7.8	3.9
1940	111.8	84.9	26.9	12.5	1.5	−8.5	10.0	11.1	14.4
1941	138.8	86.3	52.5	24.7	12.0	−3.5	15.6	12.7	27.8
1942	76.7	86.9	−10.2	−22.1	−17.5	−15.9	−1.6	−4.6	12.0
1943	50.4	85.7	−35.3	−36.0	−24.4	−20.7	−3.8	−11.5	.7
1944	56.4	84.8	−28.4	−23.3	−10.5	−15.2	4.7	−12.8	−5.2
1945	76.5	85.4	−8.9	−.5	10.5	−8.3	18.8	−11.0	−8.4
1946	178.1	88.0	90.1	62.2	39.5	15.4	24.1	22.7	27.9
1947	177.9	91.8	86.1	87.1	52.6	11.7	40.9	34.5	−1.0
1948	208.2	96.8	111.4	99.1	54.3	14.3	40.0	44.8	12.3
1949	168.8	101.7	67.1	76.7	37.9	12.7	25.2	38.9	−9.7
1950	234.9	106.5	128.4	104.2	43.3	15.7	27.6	60.9	24.2
1951	235.2	111.8	123.3	92.5	46.9	18.8	28.1	45.6	30.8
1952	211.8	117.0	94.8	84.8	41.7	18.8	22.9	43.2	10.0
1953	216.6	122.1	94.4	91.7	47.0	22.9	24.1	44.7	2.8
1954	212.6	127.4	85.2	90.0	40.4	24.4	16.0	49.6	−4.8
1955	259.8	132.6	127.2	110.9	49.9	27.7	22.2	60.9	16.3
1956	257.8	138.3	119.5	106.5	54.9	32.5	22.4	51.6	12.9
1957	243.4	143.5	99.9	96.9	51.7	30.7	20.9	45.2	3.0
1958	221.4	147.7	73.7	77.1	31.5	24.8	6.6	45.6	−3.4
1959	270.3	151.9	118.4	101.9	38.5	25.0	13.6	63.4	16.5
1960	260.5	156.3	104.1	96.4	41.4	27.9	13.6	55.0	7.7
1961	259.1	160.6	98.4	91.2	37.3	28.1	9.3	53.8	7.3
1962	288.6	165.1	123.5	107.3	46.4	30.3	16.0	61.0	16.2
1963	307.1	170.3	136.8	120.1	49.2	29.1	20.1	70.9	16.6
1964	325.9	176.3	149.6	133.9	63.3	34.0	29.2	70.6	15.7
1965	367.0	183.7	183.4	158.1	90.4	46.2	44.2	67.7	25.2
1966	390.5	192.2	198.3	161.4	106.3	50.4	55.8	55.1	36.9
1967	374.4	201.1	173.4	144.6	93.6	45.9	47.7	50.9	28.8
1968	391.8	209.8	181.9	160.9	96.1	46.7	49.3	64.8	21.0
1969	410.3	219.8	190.5	165.3	103.1	49.7	53.4	62.2	25.1
1970	381.5	229.8	151.8	143.6	89.3	46.1	43.3	54.2	8.2
1971	419.3	239.5	179.8	160.2	76.1	40.4	35.7	84.1	19.6
1972	465.4	253.4	212.1	190.3	85.3	39.8	45.5	105.0	21.8
1973	520.8	263.6	257.1	217.1	116.5	46.8	69.8	100.6	40.0
1974	481.3	276.1	205.3	172.0	106.9	42.5	64.4	65.1	33.3
1975	383.3	287.0	96.3	109.1	60.8	27.9	32.9	48.3	−12.8
1976	453.5	297.3	156.2	134.1	61.8	27.3	34.6	72.2	22.1
1977	521.3	309.6	211.7	182.6	85.2	28.7	56.5	97.4	29.1
1978	576.9	323.7	253.3	216.5	111.6	37.2	74.3	104.9	36.8
1979	575.2	341.3	234.0	218.9	124.3	44.8	79.5	94.6	15.0
1980	509.3	356.1	153.2	160.1	101.3	47.2	54.1	58.7	−6.9
1981	545.5	369.7	175.8	152.0	105.5	56.0	49.4	46.5	23.9
1982	447.3	383.2	64.1	88.7	65.5	45.9	19.6	23.2	−24.5
1983	504.0	394.4	109.6	116.0	50.4	26.2	24.1	65.6	−6.4
1984	658.4	407.2	251.2	188.9	103.3	39.8	63.5	85.6	62.3
1985	637.0	426.7	210.3	201.2	116.1	41.9	74.2	85.1	9.1
1986	643.5	443.2	200.3	184.9	80.5	19.2	61.3	104.4	15.4
1987	674.8	460.8	214.0	179.5	77.7	13.8	64.0	101.8	34.4
1982: IV	408.8	390.0	18.8	78.0					−59.3
1983: IV	577.2	397.9	179.3	152.3					27.0
1984: IV	655.7	413.5	242.2	200.5					41.7
1985: IV	648.0	435.3	212.7	205.0					7.7
1986: I	678.0	436.7	241.3	195.6					45.7
II	652.1	441.2	210.9	187.3					23.6
III	627.6	445.4	182.2	179.2					3.0
IV	616.5	449.6	166.9	177.4					−10.5
1987: I	646.4	453.8	192.7	162.9					29.8
II	660.1	458.2	201.9	174.1					27.8
III	667.9	463.0	204.9	191.8					13.0
IV	724.7	468.2	256.5	189.4					67.1
1988: I	728.9	472.9	255.9	190.0					66.0
II	715.1	477.3	237.8	202.4					35.3
III	726.1	481.9	244.2	204.7					39.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–18.—*Inventories and final sales of business, 1946–88*

[Billions of dollars, except as noted; seasonally adjusted]

Quarter	Inventories[1]							Final sales[2]	Inventory-final sales ratio	
	Total[2]	Farm	Nonfarm							
			Total[2]	Manufacturing	Wholesale trade	Retail trade	Other		Total	Nonfarm[4]
Fourth quarter:										
1946	71.0	19.6	51.4	24.6	10.4	12.8	3.2	15.8	4.48	3.24
1947	80.3	21.0	59.3	29.0	11.1	14.5	4.1	18.4	4.36	3.22
1948	85.6	19.3	66.3	32.2	12.5	16.6	4.5	19.8	4.33	3.35
1949	77.5	16.7	60.8	28.6	12.5	15.4	3.9	19.7	3.94	3.09
1950	96.7	22.5	74.2	34.9	14.7	19.2	4.9	21.8	4.44	3.41
1951	109.4	24.9	84.5	43.1	15.6	19.7	5.5	24.9	4.40	3.40
1952	108.6	23.3	85.3	44.0	15.6	19.4	5.6	26.4	4.11	3.23
1953	109.6	22.0	87.6	46.0	15.8	20.0	5.2	27.5	3.98	3.18
1954	107.3	21.2	86.1	43.9	16.1	20.2	5.3	28.0	3.84	3.08
1955	114.6	19.9	94.7	48.3	17.6	22.8	5.4	30.2	3.80	3.14
1956	123.4	19.9	103.5	54.0	18.9	23.7	6.2	31.9	3.87	3.24
1957	127.0	21.2	105.8	54.3	19.2	25.0	6.6	33.3	3.82	3.18
1958	126.2	22.6	103.7	52.7	19.3	25.1	6.6	34.3	3.68	3.02
1959	131.7	22.1	109.6	55.2	21.0	26.2	7.2	36.2	3.64	3.03
1960	135.5	23.3	112.2	56.2	21.3	27.5	7.2	37.5	3.61	2.99
1961	137.2	23.8	113.4	57.2	21.8	27.0	7.4	39.5	3.47	2.87
1962	143.8	25.2	118.6	60.3	22.4	28.3	7.5	41.8	3.44	2.84
1963	149.6	25.7	123.8	62.2	23.9	29.6	8.0	44.5	3.36	2.78
1964	155.3	24.5	130.9	65.9	25.2	31.0	8.8	47.1	3.30	2.78
1965	169.1	28.0	141.0	70.7	26.9	33.7	9.8	52.1	3.24	2.70
1966	185.2	27.4	157.8	80.9	30.3	36.2	10.4	55.3	3.35	2.85
1967	197.4	27.9	169.5	87.5	32.7	36.9	12.4	58.8	3.36	2.88
1968	211.8	29.1	182.6	94.0	34.6	40.7	13.3	64.8	3.27	2.82
1969	232.4	31.8	200.6	103.4	37.9	44.5	14.9	68.8	3.38	2.91
1970	240.3	31.1	209.2	105.8	41.7	45.8	16.0	72.4	3.32	2.89
1971	257.8	35.4	222.4	107.3	45.2	52.3	17.6	78.9	3.27	2.82
1972	285.6	44.3	241.3	113.6	50.0	57.7	19.9	87.7	3.26	2.75
1973	352.6	65.5	287.1	136.1	59.4	66.4	25.2	96.8	3.64	2.97
1974	423.3	62.4	360.9	177.0	75.6	74.6	33.7	104.6	4.05	3.45
1975	428.8	64.3	364.5	177.8	76.2	74.7	35.8	117.1	3.66	3.11
1976	463.3	60.2	403.1	194.9	86.1	82.7	39.4	128.5	3.60	3.14
1977	505.7	59.3	446.4	210.6	96.2	93.3	46.3	143.9	3.51	3.10
1978	588.2	73.7	514.5	238.4	113.8	107.8	54.5	165.1	3.56	3.12
1979	674.8	80.7	594.1	281.1	133.7	117.0	62.3	183.2	3.68	3.24
1980	739.3	84.5	654.8	310.7	154.8	122.7	66.7	201.1	3.68	3.26
1981	789.0	81.6	707.4	330.2	164.7	134.0	78.5	217.8	3.62	3.25
1982	771.5	79.2	692.2	316.1	162.2	134.7	79.2	229.5	3.36	3.02
1983	787.2	79.4	707.8	315.9	163.8	148.2	79.9	247.0	3.19	2.87
1984	858.2	80.9	777.3	343.4	177.5	166.7	89.6	268.8	3.19	2.89
1985	863.5	71.5	792.1	333.5	181.0	180.9	96.6	290.3	2.97	2.73
1986	863.1	66.2	796.9	324.2	185.0	186.5	101.3	305.4	2.83	2.61
1987	941.5	68.8	872.8	346.2	201.0	213.7	111.7	325.1	2.90	2.68
1982: IV	771.5	79.2	692.2	316.1	162.2	134.7	79.2	229.5	3.36	3.02
1983: IV	787.2	79.4	707.8	315.9	163.8	148.2	79.9	247.0	3.19	2.87
1984: IV	858.2	80.9	777.3	343.4	177.5	166.7	89.6	268.8	3.19	2.89
1985: IV	863.5	71.5	792.1	333.5	181.0	180.9	96.6	290.3	2.97	2.73
1986: I	858.9	69.3	789.6	326.4	181.0	185.3	96.8	292.7	2.93	2.70
II	862.5	70.9	791.6	325.1	182.2	186.2	98.2	297.0	2.90	2.67
III	861.7	69.5	792.2	323.7	184.7	184.8	99.1	302.6	2.85	2.62
IV	863.1	66.2	796.9	324.2	185.0	186.5	101.3	305.4	2.83	2.61
1987: I	881.4	66.5	815.0	327.1	189.0	195.2	103.7	308.2	2.86	2.64
II	902.3	69.9	832.4	330.8	192.7	203.5	105.4	315.6	2.86	2.64
III	914.1	68.2	845.9	337.8	194.0	205.5	108.5	323.3	2.83	2.62
IV	941.5	68.8	872.8	346.2	201.0	213.7	111.7	325.1	2.90	2.68
1988: I	965.2	72.6	892.6	353.4	209.3	215.2	114.7	330.2	2.92	2.70
II	992.3	78.7	913.6	360.4	213.6	221.5	118.1	339.5	2.92	2.69
III	1,015.8	81.8	934.0	366.0	219.5	226.7	121.8	344.6	2.95	2.71

[1] Inventories at end of quarter. Quarter-to-quarter change calculated from this table is not the current-dollar change in business inventories (CBI) component of GNP. The former is the difference between two inventory stocks, each valued at their respective end-of-quarter prices. The latter is the change in the physical volume of inventories valued at average prices of the quarter. In addition, changes calculated from this table are at quarterly rates, whereas CBI is stated at annual rates.

[2] Beginning 1959, inventories of construction establishments are included in "other" nonfarm inventories. Prior to 1959, they are included in total and total nonfarm inventories, but not in the detailed categories shown.

[3] Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of the world, and includes a small amount of final sales by farms.

[4] Ratio based on total business final sales, which includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–19.—*Inventories and final sales of business in 1982 dollars, 1947–88*

[Billions of 1982 dollars, except as noted; seasonally adjusted]

Quarter	Inventories [1]							Final sales [3]	Inventory-final sales ratio	
	Total [2]	Farm	Nonfarm						Total	Nonfarm [4]
			Total [2]	Manufacturing	Wholesale trade	Retail trade	Other			
Fourth quarter:										
1947	251.3	43.3	208.0	105.1	39.9	39.6	23.5	74.8	3.36	2.78
1948	263.5	45.4	218.1	108.6	42.7	43.7	23.1	77.1	3.42	2.83
1949	253.9	44.4	209.5	102.9	42.8	42.8	21.1	77.3	3.28	2.71
1950	278.1	47.7	230.4	109.8	47.6	49.5	23.4	82.6	3.37	2.79
1951	308.9	51.5	257.4	133.2	49.0	49.6	25.6	90.4	3.42	2.85
1952	318.9	54.6	264.3	139.0	50.0	49.6	25.8	93.9	3.40	2.81
1953	321.6	54.3	267.4	142.7	50.4	50.8	23.5	98.0	3.28	2.73
1954	316.9	55.9	260.9	135.0	51.1	51.2	23.6	97.7	3.24	2.67
1955	333.2	56.0	277.1	142.5	54.8	57.1	22.7	102.5	3.25	2.70
1956	346.1	53.7	292.4	153.2	56.6	57.8	24.8	104.7	3.31	2.79
1957	349.1	54.9	294.2	152.1	56.0	59.8	26.3	105.9	3.30	2.78
1958	345.7	57.3	288.4	146.8	56.0	59.4	26.3	107.7	3.21	2.68
1959	362.2	58.1	304.2	153.5	60.7	61.9	28.1	111.4	3.25	2.73
1960	370.0	59.4	310.5	154.7	61.8	65.2	28.8	114.1	3.24	2.72
1961	377.2	60.8	316.5	158.8	63.1	64.2	30.3	118.7	3.18	2.67
1962	393.4	63.5	329.9	167.2	65.0	67.5	30.1	123.4	3.19	2.67
1963	410.1	65.8	344.2	172.6	68.9	70.3	32.4	130.4	3.14	2.64
1964	425.8	64.0	361.8	180.9	72.6	73.4	34.9	136.3	3.12	2.65
1965	451.0	66.3	384.7	191.6	76.5	79.2	37.4	147.7	3.05	2.60
1966	487.9	66.1	421.7	213.6	85.1	84.3	38.7	150.2	3.25	2.81
1967	516.6	67.7	449.0	229.2	90.7	84.2	45.0	156.4	3.30	2.87
1968	537.7	68.2	469.4	239.0	93.5	90.5	46.5	163.7	3.28	2.87
1969	562.8	69.0	493.8	248.5	98.9	96.4	50.0	165.4	3.40	2.98
1970	571.1	69.8	501.2	248.3	105.8	96.6	50.5	166.8	3.42	3.00
1971	590.7	73.4	517.3	246.1	110.7	107.2	53.2	172.6	3.42	3.00
1972	612.4	75.9	536.6	251.7	114.0	114.0	56.9	185.4	3.30	2.89
1973	652.5	81.4	571.0	267.9	118.4	122.1	62.6	188.9	3.45	3.02
1974	685.7	81.3	604.5	288.5	128.4	121.1	66.4	184.3	3.72	3.28
1975	673.0	82.6	590.3	281.9	124.0	115.9	68.6	191.5	3.51	3.08
1976	695.1	79.1	616.1	294.0	131.2	122.3	68.5	199.3	3.49	3.09
1977	724.2	77.2	647.0	301.9	140.5	130.9	73.7	209.0	3.47	3.10
1978	761.0	77.8	683.2	314.1	151.6	139.1	78.4	221.5	3.44	3.08
1979	776.0	82.4	693.6	324.7	156.1	136.7	76.1	225.6	3.44	3.08
1980	769.1	77.8	691.4	326.8	161.6	130.4	72.7	225.3	3.41	3.07
1981	793.0	82.6	710.3	330.3	165.0	135.5	79.5	224.6	3.53	3.16
1982	768.4	81.2	687.2	315.2	161.5	132.9	77.6	226.1	3.40	3.04
1983	762.0	74.9	687.2	309.3	157.9	142.4	77.5	235.5	3.24	2.92
1984	824.2	79.4	744.8	330.0	171.0	157.8	86.0	248.4	3.32	3.00
1985	833.3	75.2	758.2	320.6	174.3	169.1	94.1	261.2	3.19	2.90
1986	848.8	72.6	776.1	317.1	181.4	172.2	105.4	268.8	3.16	2.89
1987	883.2	70.2	813.0	322.3	187.2	191.3	112.1	277.2	3.19	2.93
1982: IV	768.4	81.2	687.2	315.2	161.5	132.9	77.6	226.1	3.40	3.04
1983: IV	762.0	74.9	687.2	309.3	157.9	142.4	77.5	235.5	3.24	2.92
1984: IV	824.2	79.4	744.8	330.0	171.0	157.8	86.0	248.4	3.32	3.00
1985: IV	833.3	75.2	758.2	320.6	174.3	169.1	94.1	261.2	3.19	2.90
1986: I	844.8	75.8	769.0	320.3	177.8	173.8	97.0	262.7	3.22	2.93
II	850.7	76.1	774.5	321.0	179.1	173.8	100.7	264.3	3.22	2.93
III	851.4	75.6	775.8	318.5	182.3	171.6	103.5	266.4	3.20	2.91
IV	848.8	72.6	776.1	317.1	181.4	172.2	105.4	268.8	3.16	2.89
1987: I	856.2	71.1	785.1	317.0	183.0	178.5	106.7	268.7	3.19	2.92
II	863.2	71.8	791.4	316.0	183.2	184.3	107.8	272.8	3.16	2.90
III	866.4	70.5	796.0	318.7	182.4	185.1	109.8	277.3	3.12	2.87
IV	883.2	70.2	813.0	322.3	187.2	191.3	112.1	277.2	3.19	2.93
1988: I	899.7	73.7	826.0	326.3	193.4	191.7	114.6	280.4	3.21	2.95
II	908.5	75.0	833.5	327.7	193.1	195.1	117.5	285.3	3.18	2.92
III	918.4	74.8	843.6	329.1	195.9	198.1	120.5	286.3	3.21	2.95

[1] Inventories at end of quarter. Quarter-to-quarter changes calculated from this table are at quarterly rates, whereas the constant-dollar change in business inventories component of GNP is stated at annual rates.

[2] Beginning 1959, inventories of construction establishments are included in "other" nonfarm inventories. Prior to 1959, they are included in total and total nonfarm inventories, but not in the detailed categories shown.

[3] Quarterly totals at monthly rates. Business final sales equals final sales less gross product of households and institutions, government, and rest of world, and includes a small amount of final sales by farms.

[4] Ratio based on total business final sales, which includes a small amount of final sales by farms.

Note.—The industry classification of inventories is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–20.—*Foreign transactions in the national income and product accounts, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts from foreigners					Payments to foreigners								
	Total	Exports of goods and services			Capital grants received by the United States (net)	Total	Imports of goods and services			Transfer payments (net)			Interest paid by government to foreigners	Net foreign investment
		Total	Merchandise	Services			Total	Merchandise	Services	Total	From persons (net)	From government (net)		
1929	7.1	7.1	5.3	1.7		7.1	5.9	4.5	1.5	0.4	0.3	0.0	0.0	0.8
1933	2.4	2.4	1.7	.7		2.4	2.1	1.5	.6	.2	.2	.0	.0	.2
1939	4.6	4.6	3.3	1.3		4.6	3.4	2.4	1.0	.2	.2	.0	.0	1.0
1940	5.4	5.4	4.1	1.3		5.4	3.7	2.7	1.0	.2	.2	.0	.0	1.5
1941	6.1	6.1	4.5	1.6		6.1	4.7	3.4	1.3	.2	.2	.0	.0	1.3
1942	5.0	5.0	3.4	1.6		5.0	4.8	2.7	2.1	.2	.1	.1	.0	−.1
1943	4.6	4.6	2.9	1.7		4.6	6.5	3.4	3.1	.2	.2	−.1	.0	−2.1
1944	5.5	5.5	3.6	1.9		5.5	7.2	3.8	3.4	.3	.4	−.1	.0	−2.0
1945	7.4	7.4	5.4	2.1		7.4	7.9	3.9	4.0	.8	.5	.4	.0	−1.3
1946	15.2	15.2	11.8	3.4		15.2	7.3	5.1	2.3	2.9	.7	2.3	.0	4.9
1947	20.3	20.3	16.1	4.2		20.3	8.3	6.0	2.4	2.6	.7	2.0	.0	9.3
1948	17.5	17.5	13.3	4.3		17.5	10.6	7.6	3.0	4.5	.7	3.9	.0	2.4
1949	16.4	16.4	12.2	4.1		16.4	9.8	6.9	2.9	5.6	.5	5.1	.0	.9
1950	14.5	14.5	10.2	4.3		14.5	12.3	9.1	3.2	4.0	.4	3.6	.0	−1.8
1951	19.8	19.8	14.2	5.5		19.8	15.3	11.2	4.1	3.5	.4	3.1	.0	.9
1952	19.2	19.2	13.4	5.8		19.2	16.0	10.8	5.2	2.5	.4	2.1	.1	.6
1953	18.1	18.1	12.4	5.7		18.1	16.8	11.0	5.8	2.5	.5	2.0	.1	−1.3
1954	18.8	18.8	12.9	5.9		18.8	16.3	10.4	5.9	2.3	.5	1.8	.1	.2
1955	21.1	21.1	14.4	6.7		21.1	18.1	11.5	6.6	2.5	.4	2.1	.1	.4
1956	25.2	25.2	17.6	7.6		25.2	19.9	12.8	7.1	2.4	.5	1.9	.2	2.8
1957	28.2	28.2	19.6	8.7		28.2	20.9	13.3	7.6	2.3	.5	1.8	.2	4.8
1958	24.4	24.4	16.4	8.0		24.4	21.1	13.0	8.1	2.3	.4	1.8	.1	.9
1959	25.0	25.0	16.5	8.5		25.0	23.5	15.3	8.2	2.3	.4	1.9	.3	−1.2
1960	29.9	29.9	20.5	9.4		29.9	24.0	15.2	8.8	2.4	.4	1.9	.3	3.2
1961	31.1	31.1	20.9	10.1		31.1	23.9	15.1	8.8	2.7	.5	2.2	.3	4.2
1962	33.1	33.1	21.7	11.4		33.1	26.2	16.9	9.3	2.8	.5	2.3	.3	3.8
1963	35.7	35.7	23.3	12.3		35.7	27.5	17.7	9.7	2.9	.6	2.3	.4	4.9
1964	40.5	40.5	26.7	13.8		40.5	29.6	19.4	10.2	3.0	.7	2.3	.5	7.5
1965	42.9	42.9	27.8	15.1		42.9	33.2	22.2	11.0	3.0	.7	2.3	.5	6.2
1966	46.6	46.6	30.7	15.8		46.6	39.1	26.3	12.7	3.1	.7	2.4	.5	3.8
1967	49.5	49.5	32.2	17.3		49.5	42.1	27.8	14.4	3.3	.9	2.4	.6	3.5
1968	54.8	54.8	35.3	19.5		54.8	49.3	33.9	15.4	3.2	.9	2.3	.7	1.6
1969	60.4	60.4	38.3	22.1		60.4	54.7	36.8	17.9	3.2	1.0	2.2	.8	1.7
1970	69.8	68.9	44.5	24.4	0.9	69.8	60.5	40.9	19.6	3.5	1.2	2.3	1.0	4.8
1971	73.1	72.4	45.6	26.8	.7	73.1	66.1	46.6	19.5	3.9	1.2	2.7	1.8	1.3
1972	82.1	81.4	51.7	29.6	.7	82.1	78.2	56.9	21.3	4.1	1.1	2.9	2.7	−2.9
1973	114.1	114.1	73.9	40.2	0	114.1	97.3	71.8	25.5	4.1	1.3	2.9	3.8	8.8
1974	149.5	151.5	101.0	50.5	−2.0	149.5	135.2	104.5	30.7	4.6	1.0	3.6	4.3	5.4
1975	161.3	161.3	109.6	51.7	0	161.3	130.3	99.0	31.3	4.9	1.0	4.0	4.5	21.6
1976	177.7	177.7	117.5	60.2	0	177.7	158.9	124.3	34.6	5.4	1.0	4.4	4.5	9.0
1977	191.6	191.6	123.1	68.6	0	191.6	189.7	151.9	37.9	5.1	.9	4.2	5.5	−8.7
1978	227.5	227.5	144.7	82.8	0	227.5	223.4	176.5	46.9	5.6	.9	4.7	8.7	−10.1
1979	292.4	291.2	183.3	107.9	1.1	292.4	272.5	211.9	60.5	6.2	1.0	5.2	11.1	2.6
1980	352.1	351.0	225.1	125.9	1.2	352.1	318.9	247.5	71.4	7.7	1.1	6.5	12.6	13.0
1981	383.9	382.8	238.3	144.5	1.1	383.9	348.9	266.5	82.4	7.5	1.0	6.5	16.9	10.6
1982	361.9	361.9	214.0	148.0	0	361.9	335.6	249.5	86.1	9.0	1.3	7.8	18.3	−1.0
1983	352.5	352.5	206.1	146.4	0	352.5	358.7	271.3	87.3	9.5	1.0	8.5	17.8	−33.5
1984	383.5	383.5	224.1	159.4	0	383.5	442.4	334.3	108.2	12.3	1.5	10.7	19.8	−90.9
1985	370.9	370.9	220.8	150.1	0	370.9	448.9	340.9	108.0	15.1	1.7	13.4	21.3	−114.4
1986	378.4	378.4	225.0	153.4	0	378.4	482.8	367.7	115.1	15.4	1.4	13.9	22.6	−142.4
1987	428.0	428.0	254.8	173.3	0	428.0	551.1	413.0	138.1	13.5	1.3	12.2	24.1	−160.6
1982: IV	335.9	335.9	196.3	139.6	0	335.9	321.9	239.9	82.0	10.6	1.1	9.5	18.9	−15.4
1983: IV	364.7	364.7	215.6	149.1	0	364.7	390.5	298.3	92.2	13.4	1.2	12.2	18.3	−57.4
1984: IV	385.7	385.7	228.0	157.7	0	385.7	453.6	342.7	110.9	17.0	1.6	15.5	21.2	−106.1
1985: IV	369.2	369.2	217.7	151.5	0	369.2	472.4	361.4	111.0	16.9	1.4	15.5	21.5	−141.6
1986: I	376.9	376.9	222.0	154.9	0	376.9	469.9	357.0	113.0	12.0	1.5	10.4	22.5	−127.4
II	373.9	373.9	222.0	151.8	0	373.9	475.1	359.0	116.1	16.4	1.3	15.1	22.2	−139.8
III	377.8	377.8	225.1	152.7	0	377.8	486.9	373.0	113.9	17.1	1.3	15.8	22.8	−149.0
IV	385.2	385.2	231.1	154.1	0	385.2	499.4	382.0	117.5	16.1	1.6	14.5	22.9	−153.3
1987: I	395.3	395.3	232.5	162.8	0	395.3	514.4	390.1	124.3	11.9	1.4	10.6	23.8	−154.8
II	416.8	416.8	245.1	171.7	0	416.8	539.0	402.3	136.7	12.6	1.4	11.2	23.9	−158.6
III	440.4	440.4	264.8	175.6	0	440.4	565.6	421.7	143.9	12.0	1.3	10.7	23.9	−161.1
IV	459.7	459.7	276.7	183.0	0	459.7	585.4	438.0	147.4	17.6	1.2	16.4	24.6	−167.8
1988: I	487.8	487.8	300.8	187.0	0	487.8	599.9	441.7	158.2	12.7	1.2	11.5	26.6	−151.3
II	507.1	507.1	316.9	190.2	0	507.1	597.5	439.4	158.2	11.8	.8	11.0	26.8	−129.1
III	536.1	536.1	331.0	205.1	0	536.1	616.0	448.6	167.5	13.3	.8	12.5	27.8	−121.1

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–21.—*Exports and imports of goods and services in 1982 dollars, 1929–88*

[Billions of 1982 dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Exports of goods and services							Imports of goods and services						
	Total	Merchandise			Services			Total	Merchandise			Services		
		Total	Durable goods	Nondurable goods	Total	Factor income [1]	Other		Total	Durable goods	Nondurable goods	Total	Factor income [1]	Other
1929	42.1	29.7	12.3	17.5	12.3	7.6	4.8	37.4	29.3	7.4	22.0	8.0	2.6	5.4
1933	22.7	15.9	4.5	11.4	6.8	3.7	3.1	24.2	19.2	4.0	15.2	4.9	1.3	3.6
1939	36.2	26.5	13.3	13.1	9.8	5.2	4.5	30.1	24.0	6.9	17.0	6.1	2.2	4.0
1940	40.0	30.5	18.9	11.6	9.4	4.6	4.8	31.7	25.6	8.8	16.8	6.2	2.0	4.1
1941	42.0	31.7	20.2	11.6	10.3	5.2	5.1	38.2	29.4	11.0	18.4	8.8	1.9	6.9
1942	29.1	19.5	13.4	6.1	9.6	4.8	4.9	36.9	21.0	6.7	14.3	15.8	1.7	14.2
1943	25.1	15.2	10.5	4.8	9.8	4.6	5.2	48.0	25.0	6.5	18.5	23.0	1.9	21.2
1944	27.3	16.4	11.0	5.4	10.9	4.9	6.0	51.1	26.5	6.7	19.7	24.6	2.1	22.5
1945	35.2	24.0	12.6	11.3	11.2	4.8	6.5	54.1	26.0	6.9	19.1	28.2	2.5	25.7
1946	69.0	54.1	23.1	31.0	14.9	5.6	9.4	42.0	30.0	7.8	22.2	12.0	1.9	10.1
1947	82.3	65.5	34.4	31.1	16.9	7.2	9.7	39.9	29.3	7.8	21.5	10.6	2.1	8.5
1948	66.2	49.1	24.5	24.6	17.1	8.5	8.6	47.1	33.9	9.4	24.5	13.1	2.3	10.8
1949	65.0	48.4	24.1	24.2	16.7	8.2	8.5	46.2	33.3	8.9	24.4	13.0	2.6	10.4
1950	59.2	42.2	21.0	21.3	17.0	9.1	7.9	54.6	40.9	11.5	29.5	13.6	2.8	10.8
1951	72.0	51.1	23.8	27.3	20.9	10.9	10.0	57.4	40.4	11.5	28.9	17.1	3.1	14.0
1952	70.1	49.0	25.3	23.7	21.2	11.3	9.9	63.3	41.9	13.0	28.9	21.4	2.9	18.4
1953	66.9	46.4	25.8	20.6	20.5	11.0	9.5	68.7	44.6	13.7	30.9	25.1	3.1	21.9
1954	70.0	48.8	26.9	21.9	21.2	11.6	9.6	67.5	42.1	11.9	30.3	25.4	3.3	22.1
1955	76.9	53.2	30.3	22.9	23.7	13.0	10.7	76.9	48.3	14.7	33.5	28.6	3.6	25.0
1956	87.9	61.8	34.4	27.4	26.1	14.1	12.0	83.6	53.6	16.8	36.8	30.0	3.4	26.6
1957	94.9	66.6	37.2	29.4	28.3	14.8	13.5	87.9	56.1	17.1	39.0	31.8	3.4	28.4
1958	82.4	56.6	31.0	25.6	25.8	13.2	12.6	92.8	58.1	16.9	41.3	34.6	3.7	30.9
1959	83.7	56.1	30.5	25.6	27.6	14.0	13.5	101.9	68.0	22.8	45.3	33.8	4.0	29.8
1960	98.4	68.8	37.9	30.9	29.6	15.7	13.9	102.4	67.5	21.7	45.8	34.9	4.6	30.3
1961	100.7	69.1	38.0	31.1	31.6	16.9	14.7	103.3	69.0	21.1	47.9	34.3	4.8	29.6
1962	106.9	72.2	39.8	32.4	34.7	18.5	16.2	114.4	78.9	24.8	54.0	35.5	4.6	30.9
1963	114.7	77.6	42.1	35.5	37.1	20.0	17.2	116.6	81.2	26.2	55.0	35.4	5.1	30.3
1964	128.8	87.7	48.2	39.5	41.1	21.8	19.3	122.8	86.3	29.0	57.4	36.5	5.6	30.9
1965	132.0	88.2	50.0	38.2	43.8	23.2	20.6	134.7	97.0	35.6	61.4	37.7	6.2	31.6
1966	138.4	94.0	53.6	40.4	44.4	22.8	21.6	152.1	109.1	44.0	65.2	43.0	7.0	36.0
1967	143.6	96.5	58.8	37.7	47.1	23.8	23.3	160.5	113.0	48.0	65.0	47.5	7.5	40.0
1968	155.7	104.9	64.8	40.1	50.8	26.3	24.5	185.3	135.7	61.7	74.0	49.6	8.6	41.0
1969	165.0	110.0	69.5	40.5	55.0	29.0	26.0	199.9	144.6	65.6	79.0	55.2	12.0	43.2
1970	178.3	120.6	74.3	46.3	57.6	29.6	28.0	208.3	150.9	66.8	84.1	57.4	12.5	45.0
1971	179.2	119.3	72.9	46.4	59.9	30.5	29.4	218.9	166.2	74.4	91.8	52.7	9.8	42.9
1972	195.2	131.3	80.0	51.3	64.0	33.9	30.1	244.6	190.7	84.4	106.4	53.9	10.2	43.7
1973	242.3	160.6	99.3	61.3	81.7	46.2	35.4	273.8	218.2	88.9	129.4	55.6	13.9	41.7
1974	269.1	175.8	113.9	62.0	93.3	53.5	39.8	268.4	211.8	89.2	122.5	56.6	17.7	38.9
1975	259.7	171.5	112.1	59.5	88.2	45.6	42.6	240.8	187.9	72.4	115.5	52.9	16.3	36.6
1976	274.4	177.5	112.9	64.7	96.8	49.7	47.1	285.4	229.3	88.5	140.8	56.1	16.7	39.3
1977	281.6	178.1	111.2	66.9	103.6	53.5	50.1	317.1	259.4	99.3	160.1	57.7	16.1	41.6
1978	312.6	196.2	121.9	74.3	116.4	63.2	53.2	339.4	274.1	113.7	160.4	65.3	21.1	44.2
1979	356.8	218.2	136.6	81.6	138.6	86.6	52.0	353.2	277.9	115.7	162.2	75.3	30.8	44.5
1980	388.9	241.8	150.0	91.9	147.1	91.4	55.7	332.0	253.6	116.1	137.5	78.4	35.9	42.4
1981	392.7	238.5	143.8	94.6	154.3	96.3	57.9	343.4	258.7	126.1	132.6	84.7	41.1	43.6
1982	361.9	214.0	121.9	92.1	148.0	91.6	56.3	335.6	249.5	125.3	124.2	86.1	40.5	45.7
1983	348.1	207.6	119.6	88.0	140.5	85.0	55.5	368.1	282.2	150.4	131.9	85.8	37.1	48.7
1984	371.8	223.8	132.3	91.5	148.0	92.6	55.4	455.8	351.1	201.6	149.5	104.7	48.7	56.0
1985	367.2	231.6	143.7	87.9	135.6	80.0	55.6	471.4	367.9	218.7	149.3	103.5	43.1	60.4
1986	378.4	243.7	152.6	91.0	134.7	75.8	58.9	515.9	412.3	241.4	170.9	103.7	45.0	58.7
1987	427.8	280.1	177.3	102.8	147.7	80.3	67.4	556.7	439.0	260.2	178.8	117.7	54.7	63.0
1982: IV	336.0	199.1	110.8	88.3	136.9	83.0	53.8	324.3	242.7	117.1	125.6	81.6	35.1	46.5
1983: IV	355.5	214.4	126.3	88.1	141.1	88.2	52.9	401.6	311.6	172.5	139.1	90.1	39.7	50.3
1984: IV	376.6	231.9	138.2	93.7	144.7	89.5	55.2	471.4	364.2	211.4	152.8	107.2	47.4	59.8
1985: IV	367.4	231.9	143.8	88.2	135.4	79.5	55.9	492.6	387.8	226.8	161.0	104.8	41.9	62.9
1986: I	374.5	236.5	147.4	89.1	138.0	80.7	57.3	490.2	385.8	231.5	154.3	104.5	44.2	60.3
II	372.1	238.0	151.4	86.6	134.1	76.2	57.9	512.4	407.0	240.0	166.9	105.4	47.5	57.9
III	379.1	245.9	153.7	92.2	133.2	74.1	59.1	530.9	429.3	245.6	183.7	101.6	42.6	59.0
IV	387.8	254.1	157.9	96.2	133.7	72.3	61.4	530.2	427.0	248.3	178.7	103.2	45.5	57.7
1987: I	394.9	254.7	158.6	96.1	140.2	74.6	65.6	527.7	420.2	249.3	170.8	107.6	46.8	60.8
II	416.4	269.4	167.9	101.5	146.9	78.8	68.2	542.3	425.3	252.5	172.8	117.0	54.2	62.8
III	440.9	291.6	184.0	107.7	149.2	81.0	68.2	571.6	449.5	262.2	187.3	122.2	57.7	64.4
IV	459.2	304.6	198.8	105.8	154.6	87.0	67.6	585.2	461.0	276.9	184.1	124.2	60.3	63.9
1988: I	486.2	329.0	215.4	113.6	157.1	86.3	70.9	595.1	463.1	279.1	184.1	132.0	66.8	65.2
II	496.9	339.1	223.1	116.0	157.8	84.5	73.3	589.5	459.1	276.3	182.8	130.4	66.3	64.2
III	514.0	345.9	229.4	116.5	168.1	93.0	75.1	607.9	470.9	283.5	187.4	137.0	70.6	66.4

[1] Factor income exports less factor income imports equals rest-of-the-world product.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–22.—*Relation of gross national product, net national product, and national income, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross national product	Less: Capital consumption allowances with capital consumption adjustment	Equals: Net national product	Less:			Plus: Subsidies less current surplus of government enterprises	Equals: National income
				Indirect business tax and nontax liability	Business transfer payments	Statistical discrepancy		
1929	103.9	9.9	94.0	7.1	0.6	1.5	−0.2	84.7
1933	56.0	7.6	48.4	7.1	.7	1.2	.0	39.4
1939	91.3	9.0	82.3	9.4	.5	1.7	.4	71.2
1940	100.4	9.4	91.1	10.1	.4	1.4	.4	79.6
1941	125.5	10.3	115.3	11.3	.5	.7	.1	102.8
1942	159.0	11.3	147.7	11.8	.5	−.7	.1	136.2
1943	192.7	11.6	181.1	12.8	.5	−1.7	.1	169.7
1944	211.4	12.0	199.4	14.2	.5	2.7	.6	182.6
1945	213.4	12.4	201.0	15.5	.5	4.0	.7	181.6
1946	212.4	14.2	198.2	17.1	.5	.7	.9	180.7
1947	235.2	17.6	217.6	18.4	.6	1.8	−.2	196.6
1948	261.6	20.4	241.2	20.1	.7	−1.3	−.1	221.5
1949	260.4	22.0	238.4	21.3	.8	.8	−.3	215.2
1950	288.3	23.6	264.6	23.4	.8	.8	.1	239.8
1951	333.4	27.2	306.2	25.3	.9	2.7	−.1	277.3
1952	351.6	29.2	322.5	27.7	1.0	1.8	−.3	291.6
1953	371.6	30.9	340.7	29.7	1.2	2.6	−.5	306.6
1954	372.5	32.5	340.0	29.6	1.1	2.7	−.3	306.3
1955	405.9	34.4	371.5	32.2	1.2	1.8	.0	336.3
1956	428.2	38.1	390.1	35.0	1.4	−1.9	.7	356.3
1957	451.0	41.1	409.9	37.4	1.5	−1.2	.7	372.8
1958	456.8	42.8	414.0	38.6	1.6	−.1	1.1	375.0
1959	495.8	44.6	451.2	41.7	1.8	−1.5	.1	409.2
1960	515.3	46.4	468.9	45.3	2.0	−2.8	.4	424.9
1961	533.8	47.8	486.1	48.0	2.0	−1.2	1.7	439.0
1962	574.6	49.4	525.2	51.5	2.1	.0	1.8	473.3
1963	606.9	51.4	555.5	54.6	2.4	−.6	1.1	500.3
1964	649.8	53.9	595.9	58.7	2.7	−1.4	1.7	537.6
1965	705.1	57.4	647.7	62.5	2.8	−1.2	1.6	585.2
1966	772.0	62.1	709.9	65.2	3.0	2.1	2.5	642.0
1967	816.4	67.4	749.0	70.1	3.1	−.4	1.6	677.7
1968	892.7	73.9	818.7	78.7	3.4	−1.1	1.4	739.1
1969	963.9	81.4	882.5	86.3	3.9	−3.9	1.9	798.1
1970	1,015.5	88.8	926.6	94.0	4.1	−1.1	2.9	832.6
1971	1,102.7	97.5	1,005.1	103.4	4.4	1.8	2.6	898.1
1972	1,212.8	107.9	1,104.8	111.1	4.9	−1.6	3.7	994.1
1973	1,359.3	118.1	1,241.2	120.8	5.5	−4.3	3.5	1,122.7
1974	1,472.8	137.5	1,335.4	129.0	5.8	−1.7	1.2	1,203.5
1975	1,598.4	161.8	1,436.6	140.0	7.4	2.5	2.4	1,289.1
1976	1,782.8	179.2	1,603.6	151.7	7.9	3.6	1.0	1,441.4
1977	1,990.5	201.5	1,789.0	165.7	8.6	.0	3.0	1,617.8
1978	2,249.7	229.9	2,019.8	178.1	9.3	−1.9	3.9	1,838.2
1979	2,508.2	265.8	2,242.4	189.4	10.3	−1.0	3.5	2,047.3
1980	2,732.0	303.8	2,428.1	213.3	12.1	4.9	5.7	2,203.5
1981	3,052.6	347.8	2,704.8	251.5	12.4	4.1	6.7	2,443.5
1982	3,166.0	383.2	2,782.8	258.8	14.3	−.1	8.7	2,518.4
1983	3,405.7	396.6	3,009.1	282.6	16.0	5.2	14.1	2,719.5
1984	3,772.2	415.5	3,356.8	313.9	18.7	5.4	9.9	3,028.6
1985	4,014.9	437.2	3,577.6	333.6	22.0	−4.8	7.2	3,234.0
1986	4,240.3	455.9	3,784.4	348.4	25.1	−13.6	12.6	3,437.1
1987	4,526.7	480.0	4,046.7	366.3	28.1	−8.1	18.3	3,678.7
1982: IV	3,212.5	393.2	2,819.3	264.5	15.2	6.8	15.4	2,548.2
1983: IV	3,545.8	400.8	3,145.0	294.1	16.5	2.5	19.6	2,851.5
1984: IV	3,851.8	423.5	3,428.3	322.7	20.0	−2.1	8.4	3,096.1
1985: IV	4,107.9	446.9	3,661.0	338.3	23.0	−7.9	5.3	3,312.8
1986: I	4,180.4	447.8	3,732.7	347.2	23.8	−12.0	5.1	3,378.9
II	4,207.6	453.5	3,754.0	341.6	24.6	−9.5	24.5	3,421.8
III	4,268.4	457.9	3,810.5	352.7	25.6	−13.6	5.0	3,450.9
IV	4,304.6	464.4	3,840.2	352.3	26.5	−19.4	15.8	3,496.6
1987: I	4,391.8	468.7	3,923.1	356.9	27.2	−8.5	25.5	3,573.0
II	4,484.2	477.0	4,007.2	363.8	27.9	−2.5	13.8	3,631.8
III	4,568.0	484.6	4,083.4	370.3	28.5	−15.1	8.3	3,708.0
IV	4,662.8	489.5	4,173.3	374.2	29.0	−6.4	25.6	3,802.0
1988: I	4,724.5	498.3	4,226.2	379.4	29.6	−15.0	18.6	3,850.8
II	4,823.8	503.2	4,320.5	385.8	30.3	−5.1	19.2	3,928.8
III	4,909.0	507.7	4,401.3	392.3	31.1	−14.0	8.8	4,000.7

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–23.—*Relation of national income and personal income, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	National income	Less:				Plus:				Equals:
		Corporate profits with inventory valuation and capital consumption adjustments	Net interest	Contributions for social insurance	Wage accruals less disbursements	Government transfer payments to persons	Personal interest income	Personal dividend income	Business transfer payments	Personal income
1929	84.7	9.6	4.7	0.3	0.0	0.9	6.9	5.8	0.6	84.3
1933	39.4	−1.5	4.1	.3	.0	1.5	5.5	2.0	.7	46.3
1939	71.2	5.5	3.6	2.2	.0	2.5	5.3	3.8	.5	72.1
1940	79.6	8.8	3.3	2.4	.0	2.7	5.3	4.0	.4	77.6
1941	102.8	14.3	3.3	2.8	.0	2.6	5.3	4.4	.5	95.2
1942	136.2	19.7	3.1	3.5	.0	2.7	5.2	4.3	.5	122.4
1943	169.7	24.0	2.7	4.6	.2	2.5	5.1	4.4	.5	150.7
1944	182.6	24.2	2.3	5.2	−.2	3.1	5.2	4.6	.5	164.5
1945	181.6	19.7	2.2	6.3	.0	5.6	5.8	4.6	.5	170.0
1946	180.7	17.2	1.8	7.7	.0	10.8	6.6	5.6	.5	177.6
1947	196.6	22.9	2.3	6.7	.0	11.2	7.5	6.3	.6	190.2
1948	221.5	30.3	2.4	6.0	.0	10.6	8.0	7.0	.7	209.2
1949	215.2	28.0	2.6	6.6	.0	11.7	8.7	7.2	.8	206.4
1950	239.8	34.9	3.0	7.4	.0	14.4	9.6	8.8	.8	228.1
1951	277.3	39.9	3.5	8.8	.1	11.6	10.4	8.5	.9	256.5
1952	291.6	37.5	3.9	9.3	.0	12.2	11.2	8.5	1.0	273.8
1953	306.6	37.7	4.4	9.6	−.1	13.1	12.4	8.8	1.2	290.5
1954	306.3	36.6	5.2	10.6	.0	15.3	13.7	9.1	1.1	293.0
1955	336.3	47.1	5.8	12.0	.0	16.4	14.9	10.3	1.2	314.2
1956	356.3	45.7	6.5	13.5	.0	17.5	16.6	11.1	1.4	337.2
1957	372.8	45.3	7.8	15.5	.0	20.3	18.7	11.5	1.5	356.3
1958	375.0	40.3	9.5	15.9	.0	24.7	20.3	11.3	1.6	367.1
1959	409.2	51.4	10.2	18.8	.0	25.7	22.3	12.2	1.8	390.7
1960	424.9	49.5	11.3	21.9	.0	27.5	24.9	12.9	2.0	409.4
1961	439.0	50.3	12.9	22.9	.0	31.5	26.3	13.3	2.0	426.0
1962	473.3	58.3	14.6	25.4	.0	32.6	28.9	14.4	2.1	453.2
1963	500.3	63.6	16.3	28.5	.0	34.5	32.2	15.5	2.4	476.3
1964	537.6	70.7	18.2	30.1	.0	36.0	35.5	17.3	2.7	510.2
1965	585.2	81.3	20.9	31.6	.0	39.1	39.6	19.1	2.8	552.0
1966	642.0	86.6	24.3	40.6	.0	43.6	44.2	19.4	3.0	600.8
1967	677.7	84.1	27.4	45.5	.0	52.3	48.2	20.2	3.1	644.5
1968	739.1	90.7	29.8	50.4	.0	60.6	53.2	21.9	3.4	707.2
1969	798.1	87.4	34.6	57.9	.0	67.5	60.9	22.4	3.9	772.9
1970	832.6	74.7	41.2	62.2	.0	81.8	69.3	22.2	4.1	831.8
1971	898.1	87.1	46.3	68.9	.6	97.0	74.7	22.6	4.4	894.0
1972	994.1	100.7	51.0	79.0	.0	108.4	80.8	24.1	4.9	981.6
1973	1,122.7	113.3	59.6	97.6	−.1	124.1	93.3	26.6	5.5	1,101.7
1974	1,203.5	101.7	75.5	110.5	−.5	147.4	111.9	28.9	5.8	1,210.1
1975	1,289.1	117.6	83.8	118.5	.1	185.7	122.5	28.7	7.4	1,313.4
1976	1,441.4	145.2	88.8	134.5	.1	202.8	134.1	33.8	7.9	1,451.4
1977	1,617.8	174.8	105.3	149.8	.1	217.5	155.4	38.2	8.6	1,607.5
1978	1,838.2	197.2	126.3	171.7	.3	234.8	182.5	43.0	9.3	1,812.4
1979	2,047.3	200.1	158.3	197.8	−.2	262.8	221.5	48.1	10.3	2,034.0
1980	2,203.5	177.2	200.9	216.5	.0	312.6	271.9	52.9	12.1	2,258.5
1981	2,443.5	188.0	248.1	251.2	.1	355.7	335.4	61.3	12.4	2,520.9
1982	2,518.4	150.0	272.3	269.6	.0	396.2	369.7	63.9	14.3	2,670.8
1983	2,719.5	213.7	281.0	291.0	−.4	426.6	393.1	68.7	16.0	2,838.6
1984	3,028.6	266.9	304.8	324.9	.2	437.9	444.7	75.5	18.7	3,108.7
1985	3,234.0	282.3	319.0	354.1	−.2	467.8	478.0	78.7	22.0	3,325.3
1986	3,437.1	298.9	331.9	378.1	.0	496.0	499.1	82.8	25.1	3,531.1
1987	3,678.7	310.4	353.6	399.1	.0	520.6	527.0	88.6	28.1	3,780.0
1982: IV	2,548.2	146.1	266.9	273.0	.0	420.2	366.2	65.4	15.2	2,729.2
1983: IV	2,851.5	248.5	290.2	299.2	.0	429.0	411.6	71.0	16.5	2,941.8
1984: IV	3,096.1	266.9	313.1	331.5	.6	443.0	464.4	76.8	20.0	3,188.3
1985: IV	3,312.8	291.4	322.7	362.1	.0	474.5	485.9	79.0	23.0	3,399.1
1986: I	3,378.9	303.2	331.1	372.3	.0	486.3	497.1	81.1	23.8	3,460.7
II	3,421.8	297.1	334.1	375.3	.0	492.6	502.0	82.8	24.6	3,517.3
III	3,450.9	301.2	333.3	379.1	.0	501.0	499.4	83.5	25.6	3,546.7
IV	3,496.6	293.9	329.3	385.9	.0	504.3	497.6	83.6	26.5	3,599.6
1987: I	3,573.0	298.3	338.3	391.5	.0	511.6	507.1	85.3	27.2	3,676.1
II	3,631.8	305.2	348.1	395.4	.0	519.9	517.9	87.3	27.9	3,736.1
III	3,708.0	322.0	358.3	400.9	.2	523.2	533.0	89.9	28.5	3,801.0
IV	3,802.0	316.1	369.5	408.6	−.2	527.8	550.0	91.9	29.0	3,906.8
1988: I	3,850.8	316.2	373.9	433.3	.0	546.7	554.2	93.5	29.6	3,951.4
II	3,928.8	326.5	380.6	440.9	.0	552.5	563.7	95.0	30.3	4,022.4
III	4,000.7	330.0	396.2	448.4	.0	557.6	581.9	97.3	31.1	4,094.0

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–24.—*National income by type of income, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	National income [1]	Compensation of employees			Proprietors' income with inventory valuation and capital consumption adjustments							
						Farm			Nonfarm			
		Total	Wages and salaries	Supplements to wages and salaries [2]	Total	Total	Proprietors' income [3]	Capital consumption adjustment	Total	Proprietors' income	Inventory valuation adjustment	Capital consumption adjustment
1929	84.7	51.1	50.5	0.7	14.4	6.1	6.3	−0.2	8.3	8.8	0.1	−0.6
1933	39.4	29.6	29.0	.6	5.4	2.5	2.5	.0	2.9	3.9	−.5	−.5
1939	71.2	48.2	46.0	2.2	11.4	4.4	4.5	−.1	7.1	7.6	−.2	−.4
1940	79.6	52.2	49.9	2.3	12.6	4.4	4.5	−.1	8.2	8.6	.0	−.3
1941	102.8	64.8	62.1	2.8	17.1	6.4	6.5	−.2	10.8	11.7	−.6	−.3
1942	136.2	85.3	82.1	3.2	23.9	10.1	10.3	−.2	13.8	14.4	−.4	−.3
1943	169.7	109.6	105.8	3.8	28.8	12.0	12.2	−.2	16.8	17.1	−.2	−.2
1944	182.6	121.3	116.7	4.5	30.0	11.9	12.2	−.3	18.1	18.3	−.1	−.1
1945	181.6	123.3	117.5	5.8	31.5	12.4	12.6	−.3	19.1	19.3	−.1	−.1
1946	180.7	119.6	112.0	7.6	36.3	14.8	15.2	−.4	21.5	23.3	−1.7	−.1
1947	196.6	130.1	123.1	7.0	35.5	15.1	15.6	−.5	20.4	21.8	−1.5	.1
1948	221.5	142.1	135.5	6.5	40.4	17.5	18.2	−.7	22.9	23.1	−.4	.2
1949	215.2	142.0	134.7	7.3	35.9	12.8	13.5	−.7	23.1	22.2	.5	.5
1950	239.8	155.4	147.2	8.2	38.8	13.6	14.3	−.7	25.2	25.7	−1.1	.6
1951	277.3	181.6	171.6	10.0	44.0	16.0	16.8	−.8	28.0	27.7	−.3	.6
1952	291.6	196.3	185.6	10.7	44.4	15.0	15.9	−.9	29.4	28.5	.2	.7
1953	306.6	210.4	199.0	11.5	43.4	13.0	13.9	−.9	30.4	29.8	−.2	.7
1954	306.3	209.4	197.2	12.1	43.5	12.4	13.2	−.8	31.1	30.4	.0	.8
1955	336.3	225.9	212.1	13.8	45.4	11.3	12.1	−.8	34.0	33.5	−.2	.7
1956	356.3	244.7	229.0	15.7	46.9	11.1	12.0	−.9	35.8	35.4	−.5	.9
1957	372.8	257.8	239.9	17.8	48.8	11.0	11.9	−.9	37.8	37.2	−.3	.9
1958	375.0	259.8	241.3	18.5	51.5	13.1	14.0	−.9	38.5	37.7	−.1	.9
1959	409.2	281.2	259.8	21.4	51.7	10.8	11.7	−.9	40.9	40.1	.0	.9
1960	424.9	296.7	272.8	23.8	52.1	11.6	12.4	−.8	40.5	39.7	.0	.8
1961	439.0	305.6	280.5	25.1	54.3	12.0	12.8	−.8	42.3	41.7	.0	.6
1962	473.3	327.4	299.3	28.1	56.6	12.1	12.9	−.8	44.4	43.8	.0	.6
1963	500.3	345.5	314.8	30.7	57.7	11.9	12.6	−.7	45.7	45.1	.0	.7
1964	537.6	371.0	337.7	33.2	60.5	10.7	11.4	−.7	49.8	49.1	−.1	.7
1965	585.2	399.8	363.7	36.1	65.1	13.0	13.7	−.7	52.1	51.8	−.2	.4
1966	642.0	443.0	400.3	42.7	69.6	14.0	14.8	−.8	55.5	55.5	−.2	.3
1967	677.7	475.5	428.9	46.6	71.1	12.7	13.6	−.8	58.4	58.4	−.2	.2
1968	739.1	524.7	471.9	52.8	75.4	12.8	13.7	−.9	62.6	63.1	−.4	−.1
1969	798.1	578.4	518.3	60.1	79.3	14.6	15.8	−1.1	64.7	65.1	−.5	.1
1970	832.6	618.3	551.5	66.8	80.2	14.7	16.0	−1.3	65.4	66.0	−.5	.0
1971	898.1	659.4	584.5	74.9	86.8	15.5	16.8	−1.3	71.4	72.3	−.6	−.3
1972	994.1	726.2	638.7	87.6	98.3	19.4	21.1	−1.7	79.0	79.6	−.7	.1
1973	1,122.7	812.8	708.6	104.2	119.0	33.7	35.6	−1.9	85.3	87.2	−2.0	.1
1974	1,203.5	891.3	772.2	119.1	118.8	27.5	30.1	−2.6	91.3	95.3	−3.8	−.3
1975	1,289.1	948.7	814.7	134.0	125.4	25.4	29.0	−3.6	100.0	102.2	−1.2	−1.0
1976	1,441.4	1,057.9	899.6	158.3	137.7	20.6	24.6	−4.0	117.1	119.6	−1.3	−1.3
1977	1,617.8	1,176.6	994.0	182.6	152.9	20.5	25.1	−4.6	132.4	135.1	−1.3	−1.4
1978	1,838.2	1,329.2	1,119.6	209.7	176.2	27.0	32.4	−5.3	149.2	152.8	−2.3	−1.4
1979	2,047.3	1,491.4	1,251.9	239.5	191.9	31.7	38.0	−6.3	160.1	164.0	−2.9	−1.0
1980	2,203.5	1,638.2	1,372.0	266.3	180.7	20.5	28.1	−7.6	160.1	164.3	−2.9	−1.2
1981	2,443.5	1,807.4	1,510.4	297.1	186.8	30.7	39.4	−8.7	156.1	155.2	−1.4	2.3
1982	2,518.4	1,907.0	1,586.1	320.9	175.5	24.6	33.9	−9.3	150.9	148.5	−.5	2.9
1983	2,719.5	2,020.7	1,676.2	344.5	190.9	12.4	21.8	−9.4	178.4	167.3	.8	12.0
1984	3,028.6	2,213.9	1,838.8	375.1	234.5	30.5	39.6	−9.2	204.0	182.4	.4	22.0
1985	3,234.0	2,367.5	1,975.2	392.4	255.9	30.2	38.9	−8.7	225.6	194.6	−.2	31.2
1986	3,437.1	2,507.1	2,094.0	413.1	286.7	36.4	44.5	−8.1	250.3	212.7	−.1	37.8
1987	3,678.7	2,683.4	2,248.4	435.0	312.9	43.0	50.6	−7.6	270.0	233.0	−1.0	38.0
1982: IV	2,548.2	1,931.1	1,603.7	327.4	188.3	28.5	38.0	−9.4	159.8	156.9	−.6	3.5
1983: IV	2,851.5	2,092.7	1,739.4	353.4	207.8	19.3	28.5	−9.3	188.6	172.7	−.7	16.5
1984: IV	3,096.1	2,272.7	1,891.1	381.7	237.8	28.1	37.5	−9.3	209.7	182.5	.3	26.9
1985: IV	3,312.8	2,426.7	2,027.4	399.3	264.2	29.2	37.8	−8.6	235.0	201.1	−.3	34.2
1986: I	3,378.9	2,461.0	2,055.8	405.2	273.1	27.6	35.9	−8.3	245.5	209.4	−.2	36.3
II	3,421.8	2,483.4	2,074.0	409.5	294.6	46.4	54.5	−8.2	248.3	210.8	−.1	37.6
III	3,450.9	2,518.2	2,103.3	414.8	285.0	33.3	41.3	−8.0	251.7	213.0	.1	38.6
IV	3,496.6	2,565.8	2,142.8	423.0	294.2	38.4	46.2	−7.9	255.8	217.4	−.4	38.8
1987: I	3,573.0	2,608.9	2,182.9	426.0	310.1	46.7	54.4	−7.7	263.5	224.8	−.2	38.8
II	3,631.8	2,652.0	2,220.6	431.3	308.9	43.0	50.7	−7.7	265.9	228.6	−1.0	38.2
III	3,708.0	2,702.8	2,265.3	437.5	306.8	35.2	42.9	−7.7	271.5	235.1	−1.1	37.6
IV	3,802.0	2,769.9	2,324.8	445.1	326.0	47.0	54.5	−7.5	279.0	243.4	−1.7	37.4
1988: I	3,850.8	2,816.4	2,358.7	457.7	323.9	44.7	52.2	−7.5	279.2	243.7	−1.2	36.6
II	3,928.8	2,874.0	2,410.0	464.0	328.8	43.4	50.8	−7.3	285.3	250.9	−1.7	36.1
III	4,000.7	2,933.2	2,462.0	471.1	321.6	30.9	37.9	−7.0	290.7	256.8	−1.5	35.4

[1] National income is the total net income earned in production. It differs from gross national product mainly in that it excludes depreciation charges and other allowances for business and institutional consumption of durable capital goods and indirect business taxes. See Table B–22.

[2] Consists mainly of employer contributions for social insurance and to private pension, health, and welfare funds.

See next page for continuation of table.

TABLE B–24.—*National income by type of income, 1929–88*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Rental income of persons with capital consumption adjustment			Corporate profits with inventory valuation and capital consumption adjustments									Net interest
					Profits with inventory valuation adjustment and without capital consumption adjustment								
						Profits							
								Profits after tax					
	Total	Rental income of persons	Capital consumption adjustment	Total	Total	Profits before tax	Profits tax liability	Total	Dividends	Undistributed profits	Inventory valuation adjustment	Capital consumption adjustment	
1929	4.9	5.6	−0.7	9.6	10.5	10.0	1.4	8.6	5.8	2.8	0.5	−0.9	4.7
1933	2.0	2.1	−.1	−1.5	−1.2	1.0	.5	.4	2.0	−1.6	−2.1	−.3	4.1
1939	2.6	3.2	−.5	5.5	6.5	7.2	1.4	5.7	3.8	2.0	−.7	−1.0	3.6
1940	2.7	3.3	−.6	8.8	9.8	10.0	2.8	7.2	4.0	3.2	−.2	−1.1	3.3
1941	3.2	4.0	−.8	14.3	15.4	17.9	7.6	10.3	4.4	5.8	−2.5	−1.1	3.3
1942	4.1	5.1	−.9	19.7	20.5	21.7	11.4	10.3	4.3	6.0	−1.2	−.8	3.1
1943	4.6	5.7	−1.1	24.0	24.5	25.3	14.1	11.2	4.4	6.7	−.8	−.5	2.7
1944	4.8	6.1	−1.3	24.2	24.0	24.2	12.9	11.3	4.6	6.7	−.3	.2	2.3
1945	5.0	6.5	−1.5	19.7	19.3	19.8	10.7	9.1	4.6	4.5	−.6	.4	2.2
1946	5.8	7.5	−1.7	17.2	19.6	24.8	9.1	15.7	5.6	10.2	−5.3	−2.4	1.8
1947	5.8	8.2	−2.4	22.9	25.9	31.8	11.3	20.5	6.3	14.2	−5.9	−2.9	2.3
1948	6.4	9.1	−2.7	30.3	33.4	35.6	12.4	23.2	7.0	16.2	−2.2	−3.2	2.4
1949	6.7	9.4	−2.7	28.0	31.1	29.2	10.2	19.0	7.2	11.8	1.9	−3.0	2.6
1950	7.7	10.5	−2.8	34.9	37.9	42.9	17.9	25.0	8.8	16.2	−5.0	−3.0	3.0
1951	8.3	11.5	−3.2	39.9	43.3	44.5	22.6	21.9	8.5	13.4	−1.2	−3.4	3.5
1952	9.4	12.7	−3.3	37.5	40.6	39.6	19.4	20.2	8.5	11.8	1.0	−3.2	3.9
1953	10.7	13.9	−3.3	37.7	40.2	41.2	20.3	20.9	8.8	12.1	−1.0	−2.5	4.4
1954	11.6	14.9	−3.2	36.6	38.4	38.7	17.6	21.1	9.1	11.9	−.3	−1.8	5.2
1955	12.0	15.3	−3.3	47.1	47.5	49.2	22.0	27.2	10.3	16.9	−1.7	−.4	5.8
1956	12.4	15.9	−3.5	45.7	46.9	49.6	22.0	27.6	11.1	16.6	−2.7	−1.2	6.5
1957	13.1	16.5	−3.5	45.3	46.6	48.1	21.4	26.7	11.5	15.2	−1.5	−1.3	7.8
1958	13.9	17.3	−3.4	40.3	41.6	41.9	19.0	22.9	11.3	11.6	−.3	−1.3	9.5
1959	14.6	18.0	−3.4	51.4	52.3	52.6	23.6	28.9	12.2	16.7	−.3	−.8	10.2
1960	15.3	18.7	−3.4	49.5	49.8	49.9	22.7	27.2	12.9	14.3	−.2	−.3	11.3
1961	15.8	19.1	−3.3	50.3	50.1	49.8	22.8	27.1	13.3	13.7	.3	.2	12.9
1962	16.5	19.8	−3.3	58.3	55.2	55.1	24.0	31.2	14.4	16.8	.0	3.1	14.6
1963	17.1	20.3	−3.2	63.6	59.8	59.8	26.2	33.5	15.5	18.0	.1	3.8	16.3
1964	17.3	20.5	−3.2	70.7	66.2	66.7	28.0	38.7	17.3	21.4	−.5	4.5	18.2
1965	18.1	21.3	−3.3	81.3	76.2	77.4	30.9	46.5	19.1	27.4	−1.2	5.2	20.9
1966	18.6	22.2	−3.6	86.6	81.2	83.3	33.7	49.6	19.4	30.2	−2.1	5.4	24.3
1967	19.6	23.5	−3.9	84.1	78.6	80.1	32.7	47.5	20.2	27.3	−1.6	5.5	27.4
1968	18.4	22.9	−4.5	90.7	85.4	89.1	39.4	49.7	22.0	27.7	−3.7	5.3	29.8
1969	18.4	24.2	−5.8	87.4	81.4	87.2	39.7	47.5	22.5	25.0	−5.9	6.1	34.6
1970	18.2	24.6	−6.4	74.7	69.5	76.0	34.4	41.7	22.5	19.2	−6.6	5.2	41.2
1971	18.6	25.9	−7.4	87.1	82.7	87.3	37.7	49.6	22.9	26.6	−4.6	4.3	46.3
1972	17.9	26.5	−8.6	100.7	94.9	101.5	41.9	59.6	24.4	35.2	−6.6	5.8	51.0
1973	18.0	28.1	−10.1	113.3	107.1	127.2	49.3	77.9	27.0	50.8	−20.0	6.2	59.6
1974	16.1	28.9	−12.7	101.7	99.4	138.9	51.8	87.1	29.7	57.3	−39.5	2.3	75.5
1975	13.5	28.6	−15.0	117.6	123.9	134.8	50.9	83.9	29.6	54.3	−11.0	−6.2	83.8
1976	11.9	28.9	−17.0	145.2	155.3	170.3	64.2	106.0	34.6	71.4	−14.9	−10.1	88.8
1977	8.2	28.8	−20.6	174.8	183.8	200.4	73.0	127.4	39.5	87.9	−16.6	−9.0	105.3
1978	9.3	34.2	−24.9	197.2	208.2	233.5	83.5	150.0	44.7	105.2	−25.3	−10.9	126.3
1979	5.6	35.7	−30.1	200.1	214.1	257.2	88.0	169.2	50.1	119.1	−43.2	−14.0	158.3
1980	6.6	41.4	−34.8	177.2	194.0	237.1	84.8	152.3	54.7	97.6	−43.1	−16.8	200.9
1981	13.3	52.2	−38.9	188.0	202.3	226.5	81.1	145.4	63.6	81.8	−24.2	−14.4	248.1
1982	13.6	54.4	−40.8	150.0	159.2	169.6	63.1	106.5	66.9	39.6	−10.4	−9.2	272.3
1983	13.2	55.0	−41.8	213.7	196.7	207.6	77.2	130.4	71.5	58.9	−10.9	17.0	281.0
1984	8.5	51.9	−43.3	266.9	234.2	240.0	93.9	146.1	79.0	67.0	−5.8	32.7	304.8
1985	9.2	54.2	−45.0	282.3	222.6	224.3	96.4	127.8	83.3	44.6	−1.7	59.7	319.0
1986	12.4	57.4	−45.0	298.9	244.7	236.4	106.6	129.8	88.2	41.6	8.3	54.2	331.9
1987	18.4	66.2	−47.8	310.4	258.7	276.7	133.8	142.9	95.5	47.4	−18.0	51.7	353.6
1982: IV	15.8	56.5	−40.7	146.1	150.7	164.1	59.8	104.3	68.5	35.8	−13.4	−4.5	266.9
1983: IV	12.4	54.3	−41 9	248.5	223.4	231.5	88.1	143.4	73.9	69.5	−8.1	25.1	290.2
1984: IV	5.6	49.6	−44.0	266.9	224.6	226.1	87.0	139.2	80.8	58.4	−1.6	42.3	313.1
1985: IV	7.8	54.5	−46.7	291.4	228.4	235.0	99.8	135.2	84.0	51.2	−6.6	63.0	322.7
1986: I	10.6	55.1	−44.5	303.2	243.4	222.5	99.2	123.2	86.2	37.0	21.0	59.8	331.1
II	12.5	57.4	−44.9	297.1	242.1	230.3	104.9	125.4	88.0	37.4	11.8	55.0	334.1
III	13.1	58.1	−45.0	301.2	249.2	240.5	107.9	132.6	88.9	43.7	8.7	52.0	333.3
IV	13.4	59.0	−45.6	293.9	244.1	252.1	114.3	137.9	89.8	48.1	−8.1	49.8	329.3
1987: I	17.4	63.1	−45.7	298.3	247.5	261.8	126.3	135.5	91.7	43.8	−14.4	50.8	338.3
II	17.8	65.5	−47.7	305.2	253.6	273.7	132.6	141.1	94.0	47.0	−20.0	51.5	348.1
III	18.1	67.1	−49.0	322.0	269.9	289.4	140.0	149.5	97.0	52.4	−19.5	52.1	358.3
IV	20.5	69.1	−48.6	316.1	263.7	281.9	136.2	145.7	99.3	46.4	−18.2	52.4	369.5
1988: I	20.5	69.6	−49.1	316.2	266.8	286.2	136.9	149.4	101.3	48.1	−19.4	49.4	373.9
II	19.1	68.0	−49.0	326.5	278.5	305.9	143.2	162.7	103.1	59.6	−27.4	48.0	380.6
III	19.7	68.5	−48.8	330.0	284.6	313.9	144.8	169.1	105.7	63.4	−29.3	45.4	396.2

[3] With inventory valuation adjustment.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–25.—*Sources of personal income, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal income	Wage and salary disbursements [1]						Other labor income [2]	Proprietors' income with inventory valuation and capital consumption adjustments	
		Total	Commodity-producing industries		Distributive industries	Service industries	Government and government enterprises		Farm	Nonfarm
			Total	Manufacturing						
1929	84.3	50.5	21.5	16.1	15.6	8.4	5.0	0.5	6.1	8.3
1933	46.3	29.0	9.8	7.8	8.8	5.2	5.2	.4	2.5	2.9
1939	72.1	46.0	17.4	13.6	13.3	7.1	8.2	.6	4.4	7.1
1940	77.6	49.9	19.7	15.6	14.2	7.5	8.5	.6	4.4	8.2
1941	95.2	62.1	27.5	21.7	16.3	8.1	10.2	.7	6.4	10.8
1942	122.4	82.1	39.1	30.9	18.0	9.0	16.0	.9	10.1	13.8
1943	150.7	105.6	49.0	40.9	20.1	9.9	26.6	1.1	12.0	16.8
1944	164.5	116.9	50.4	42.9	22.7	10.9	33.0	1.5	11.9	18.1
1945	170.0	117.5	45.9	38.2	24.8	11.9	34.9	1.8	12.4	19.1
1946	177.6	112.0	46.0	36.5	31.0	14.3	20.7	2.0	14.8	21.5
1947	190.2	123.1	54.2	42.5	35.2	16.1	17.5	2.4	15.1	20.4
1948	209.2	135.5	61.1	47.1	37.5	17.9	19.0	2.7	17.5	22.9
1949	206.4	134.8	57.8	44.6	37.7	18.5	20.8	2.9	12.8	23.1
1950	228.1	147.2	64.8	50.3	39.9	19.9	22.6	3.7	13.6	25.2
1951	256.5	171.5	76.4	59.4	44.4	21.6	29.2	4.6	16.0	28.0
1952	273.8	185.6	82.1	64.2	47.0	23.2	33.3	5.2	15.0	29.4
1953	290.5	199.0	89.8	71.3	49.9	25.0	34.4	5.9	13.0	30.4
1954	293.0	197.2	85.8	67.6	50.3	26.2	34.9	6.1	12.4	31.1
1955	314.2	212.1	93.3	73.9	53.6	28.7	36.6	7.0	11.3	34.0
1956	337.2	229.0	100.8	79.5	58.0	31.5	38.8	8.0	11.1	35.8
1957	356.3	239.9	104.4	82.5	60.7	33.8	41.0	9.0	11.0	37.8
1958	367.1	241.3	100.3	78.7	61.1	35.9	44.1	9.4	13.1	38.5
1959	390.7	259.8	109.9	86.9	65.1	38.8	46.0	10.6	10.8	40.9
1960	409.4	272.8	113.4	89.8	68.6	41.7	49.2	11.2	11.6	40.5
1961	426.0	280.5	114.0	89.9	69.6	44.4	52.4	11.8	12.0	42.3
1962	453.2	299.3	122.2	96.8	73.3	47.6	56.3	13.0	12.1	44.4
1963	476.3	314.8	127.4	100.7	76.8	50.7	60.0	14.0	11.9	45.7
1964	510.2	337.7	136.0	107.3	82.0	54.9	64.9	15.7	10.7	49.8
1965	552.0	363.7	146.6	115.7	87.9	59.4	69.9	17.8	13.0	52.1
1966	600.8	400.3	161.6	128.2	95.1	65.3	78.3	19.9	14.0	55.5
1967	644.5	428.9	169.0	134.3	101.6	72.0	86.4	21.7	12.7	58.4
1968	707.2	471.9	184.1	146.0	110.8	80.4	96.6	25.2	12.8	62.6
1969	772.9	518.3	200.4	157.7	121.7	90.6	105.5	28.5	14.6	64.7
1970	831.8	551.5	203.7	158.4	131.2	99.4	117.1	32.5	14.7	65.4
1971	894.0	583.9	209.1	160.5	140.4	107.9	126.5	36.7	15.5	71.4
1972	981.6	638.7	228.2	175.6	153.3	119.7	137.4	43.0	19.4	79.0
1973	1,101.7	708.7	255.9	196.6	170.3	133.9	148.7	49.2	33.7	85.3
1974	1,210.1	772.6	276.5	211.8	186.8	148.6	160.9	56.5	27.5	91.3
1975	1,313.4	814.6	277.1	211.6	198.1	163.4	176.0	65.9	25.4	100.0
1976	1,451.4	899.5	309.7	238.0	219.5	181.6	188.6	79.3	20.6	117.1
1977	1,607.5	993.9	346.1	266.7	242.7	202.8	202.3	94.1	20.5	132.4
1978	1,812.4	1,119.3	392.3	300.1	274.6	232.9	219.4	107.7	27.0	149.2
1979	2,034.0	1,252.1	441.4	334.8	307.8	266.8	236.1	122.7	31.7	160.1
1980	2,258.5	1,372.0	470.7	355.6	335.5	305.6	260.2	138.4	20.5	160.1
1981	2,520.9	1,510.3	512.2	386.7	366.8	346.9	284.4	150.3	30.7	156.1
1982	2,670.8	1,586.1	511.7	384.0	384.2	384.4	305.9	163.6	24.6	150.9
1983	2,838.6	1,676.6	523.1	397.4	404.2	425.1	324.3	173.6	12.4	178.4
1984	3,108.7	1,838.6	577.6	439.1	442.8	472.1	346.1	182.9	30.5	204.0
1985	3,325.3	1,975.4	608.9	460.9	473.2	521.3	372.0	187.6	30.2	225.6
1986	3,531.1	2,094.0	625.5	473.1	498.9	575.9	393.7	196.1	36.4	250.3
1987	3,780.0	2,248.4	649.8	490.3	531.7	646.8	420.1	207.9	43.0	270.0
1982: IV	2,729.2	1,603.6	501.8	377.4	389.3	398.5	314.0	168.0	28.5	159.8
1983: IV	2,941.8	1,739.4	545.4	415.5	420.8	443.2	330.0	177.8	19.3	188.6
1984: IV	3,188.3	1,890.5	591.6	449.5	455.1	489.6	354.3	185.4	28.1	209.7
1985: IV	3,399.1	2,027.4	619.2	468.3	484.6	543.4	380.3	189.7	29.2	235.0
1986: I	3,460.7	2,055.8	622.7	471.1	490.9	556.8	385.4	191.9	27.6	245.5
II	3,517.3	2,074.0	622.0	470.6	494.0	567.2	390.8	194.4	46.4	248.3
III	3,546.7	2,103.3	625.0	473.0	501.1	580.8	396.5	197.5	33.3	251.7
IV	3,599.6	2,142.8	632.3	477.9	509.7	598.7	402.2	200.6	38.4	255.8
1987: I	3,676.1	2,182.9	638.2	482.7	516.6	617.1	410.9	203.4	46.7	263.5
II	3,736.1	2,220.6	642.8	484.6	526.1	634.8	416.9	206.4	43.0	265.9
III	3,801.0	2,265.1	652.8	492.6	536.8	652.4	423.0	209.3	35.2	271.5
IV	3,906.8	2,325.1	665.5	501.3	547.3	682.8	429.5	212.4	47.0	279.0
1988: I	3,951.4	2,358.7	676.0	509.6	558.2	687.4	437.1	214.6	44.7	279.2
II	4,022.4	2,410.0	689.1	517.4	572.1	705.9	442.9	216.5	43.4	285.3
III	4,094.0	2,462.0	701.3	525.9	585.8	725.8	449.1	219.5	30.9	290.7

[1] The total of wage and salary disbursements and other labor income differs from compensation of employees in Table B–24 in that it excludes employer contributions for social insurance and the excess of wage accruals over wage disbursements.

See next page for continuation of table.

TABLE B–25.—*Sources of personal income, 1929–88*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Rental income of persons with capital consumption adjustment	Personal dividend income	Personal interest income	Transfer payments							Less: Personal contributions for social insurance	Nonfarm personal income[1]
				Total	Old-age, survivors, disability, and health insurance benefits	Government unemployment insurance benefits	Veterans benefits	Government employees retirement benefits	Aid to families with dependent children (AFDC)	Other		
1929	4.9	5.8	6.9	1.5			0.6	0.1		0.8	0.1	
1933	2.0	2.0	5.5	2.1			.6	.2		1.4	.2	
1939	2.6	3.8	5.3	3.0	0.0	0.4	.5	.3		1.7	.6	
1940	2.7	4.0	5.3	3.1	.0	.5	.5	.3		1.7	.7	
1941	3.2	4.4	5.3	3.1	.1	.4	.5	.3		1.8	.8	
1942	4.1	4.3	5.2	3.1	.1	.4	.5	.3		1.8	1.2	
1943	4.6	4.4	5.1	3.0	.2	.1	.5	.4		1.8	1.8	
1944	4.8	4.6	5.2	3.6	.2	.1	1.0	.4		2.0	2.2	
1945	5.0	4.6	5.8	6.2	.3	.4	3.0	.5		2.0	2.3	
1946	5.8	5.6	6.6	11.3	.4	1.1	7.0	.7		2.1	2.0	159.9
1947	5.8	6.3	7.5	11.7	.5	.8	7.0	.7	0.3	2.5	2.1	172.0
1948	6.4	7.0	8.0	11.3	.6	.9	5.9	.7	.4	2.9	2.2	188.3
1949	6.7	7.2	8.7	12.5	.7	1.9	5.3	.9	.5	3.3	2.2	190.6
1950	7.7	8.8	9.6	15.2	1.0	1.5	7.7	1.0	.6	3.5	2.9	211.2
1951	8.3	8.5	10.4	12.6	1.9	.9	4.6	1.1	.6	3.6	3.4	237.1
1952	9.4	8.5	11.2	13.3	2.2	1.1	4.3	1.2	.5	3.9	3.8	255.4
1953	10.7	8.8	12.4	14.3	3.0	1.0	4.1	1.4	.5	4.2	4.0	274.2
1954	11.6	9.1	13.7	16.3	3.6	2.2	4.2	1.5	.6	4.2	4.6	277.5
1955	12.0	10.3	14.9	17.7	4.9	1.5	4.4	1.7	.6	4.5	5.2	299.6
1956	12.4	11.1	16.6	18.9	5.7	1.5	4.4	1.9	.6	4.8	5.8	322.8
1957	13.1	11.5	18.7	21.8	7.3	1.9	4.5	2.2	.7	5.2	6.7	341.9
1958	13.9	11.3	20.3	26.3	8.5	4.1	4.7	2.5	.8	5.7	6.9	350.4
1959	14.6	12.2	22.3	27.4	10.2	2.8	4.6	2.8	.9	6.2	7.9	376.2
1960	15.3	12.9	24.9	29.5	11.1	3.0	4.6	3.1	1.0	6.7	9.3	393.9
1961	15.8	13.3	26.3	33.5	12.6	4.3	5.0	3.4	1.1	7.1	9.7	409.9
1962	16.5	14.4	28.9	34.7	14.3	3.1	4.7	3.7	1.3	7.6	10.3	436.7
1963	17.1	15.5	32.2	36.9	15.2	3.0	4.8	4.2	1.4	8.3	11.8	460.0
1964	17.3	17.3	35.5	38.7	16.0	2.7	4.7	4.7	1.5	9.1	12.6	494.9
1965	18.1	19.1	39.6	41.9	18.1	2.3	4.9	5.2	1.7	9.8	13.3	534.0
1966	18.6	19.4	44.2	46.6	20.8	1.9	4.9	6.1	1.9	11.2	17.8	581.5
1967	19.6	20.2	48.2	55.5	25.5	2.2	5.6	6.9	2.3	13.0	20.6	626.3
1968	18.4	21.9	53.2	64.0	30.2	2.1	5.9	7.6	2.8	15.3	22.9	688.7
1969	18.4	22.4	60.9	71.4	32.9	2.2	6.7	8.7	3.5	17.3	26.2	752.1
1970	18.2	22.2	69.3	85.9	38.5	4.0	7.7	10.2	4.8	20.7	27.9	810.4
1971	18.6	22.6	74.7	101.5	44.5	5.8	8.8	11.8	6.2	24.5	30.7	871.8
1972	17.9	24.1	80.8	113.3	49.6	5.7	9.7	13.8	6.9	27.6	34.5	955.0
1973	18.0	26.6	93.3	129.6	60.4	4.4	10.4	16.0	7.2	31.2	42.6	1,059.7
1974	16.1	28.9	111.9	153.2	70.1	6.8	11.8	19.0	7.9	37.5	47.9	1,172.6
1975	13.5	28.7	122.5	193.1	81.4	17.6	14.5	22.7	9.2	47.6	50.4	1,276.9
1976	11.9	33.8	134.1	210.7	92.9	15.8	14.4	26.1	10.1	51.5	55.5	1,417.9
1977	8.2	38.2	155.4	226.1	104.9	12.7	13.8	29.0	10.6	55.1	61.2	1,572.6
1978	9.3	43.0	182.5	244.0	116.2	9.7	13.9	32.7	10.7	60.9	69.8	1,769.3
1979	5.6	48.1	221.5	273.1	131.8	9.8	14.4	36.9	11.0	69.1	81.0	1,983.2
1980	6.6	52.9	271.9	324.7	154.2	16.1	15.0	43.0	12.4	84.0	88.6	2,215.8
1981	13.3	61.3	335.4	368.1	182.0	15.9	16.1	49.4	13.0	91.8	104.5	2,465.6
1982	13.6	63.9	369.7	410.6	204.5	25.2	16.4	54.6	13.3	96.5	112.3	2,618.7
1983	13.2	68.7	393.1	442.6	221.7	26.3	16.6	58.7	14.2	105.1	120.1	2,799.0
1984	8.5	75.5	444.7	456.6	235.7	15.8	16.4	61.4	14.8	112.6	132.7	3,052.1
1985	9.2	78.7	478.0	489.8	253.4	15.7	16.7	66.8	15.4	121.9	149.3	3,271.3
1986	12.4	82.8	499.1	521.1	269.3	16.3	16.7	70.6	16.3	131.9	161.1	3,472.5
1987	18.4	88.6	527.0	548.8	282.9	14.7	16.6	75.7	16.7	142.1	172.0	3,716.0
1982: IV	15.8	65.4	366.2	435.4	216.6	31.8	16.6	56.1	13.6	100.6	113.5	2,672.8
1983: IV	12.4	71.0	411.6	445.5	227.0	20.0	16.5	60.2	14.5	107.3	123.6	2,895.6
1984: IV	5.6	76.8	464.4	463.0	241.7	15.6	16.3	58.5	14.8	116.1	135.2	3,134.7
1985: IV	7.8	79.0	485.9	497.5	257.0	15.2	16.5	67.9	15.8	125.0	152.6	3,346.9
1986: I	10.6	81.1	497.1	510.0	264.4	15.5	17.0	69.1	16.0	127.9	159.0	3,410.5
II	12.5	82.8	502.0	517.2	266.8	16.3	16.9	70.1	16.3	130.8	160.2	3,448.7
III	13.1	83.5	499.4	526.5	272.4	16.9	16.7	71.0	16.4	133.1	161.7	3,491.4
IV	13.4	83.6	497.6	530.8	273.4	16.6	16.5	72.1	16.6	135.7	163.5	3,539.5
1987: I	17.4	85.3	507.1	538.8	277.9	15.7	16.6	73.5	16.6	138.5	168.9	3,608.0
II	17.8	87.3	517.9	547.8	282.8	15.1	16.7	75.5	16.7	140.9	170.5	3,672.0
III	18.1	89.9	533.0	551.7	284.5	14.5	16.6	76.7	16.8	142.7	172.7	3,744.9
IV	20.5	91.9	550.0	556.8	286.5	13.4	16.6	77.1	16.8	146.5	175.9	3,839.2
1988: I	20.5	93.5	554.2	576.3	298.1	13.9	17.0	80.4	16.9	150.0	190.2	3,886.3
II	19.1	95.0	563.7	582.8	300.4	13.4	17.1	82.3	17.1	152.5	193.5	3,957.9
III	19.7	97.3	581.9	588.6	303.1	13.4	17.1	81.6	17.2	156.2	196.7	4,041.9

[1] Personal income exclusive of the farm component of wages and salaries, other labor income, proprietors' income, and net interest.

Note.—The industry classification of wage and salary disbursements and proprietors' income is on an establishment basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948 and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–26.—*Disposition of personal income, 1929–88*

[Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Personal income	Less: Personal tax and nontax payments	Equals: Disposable personal income	Less: Personal outlays				Equals: Personal saving	Percent of disposable personal income		
				Total	Personal consumption expenditures	Interest paid by consumers to business	Personal transfer payments to foreigners (net)		Personal outlays		Personal saving
									Total	Personal consumption expenditures	
1929	84.3	2.6	81.7	79.2	77.3	1.5	0.3	2.6	96.8	94.5	3.2
1933	46.3	1.4	44.9	46.5	45.8	.5	.2	−1.6	103.6	102.1	−3.6
1939	72.1	2.4	69.7	67.9	67.0	.7	.2	1.8	97.4	96.2	2.6
1940	77.6	2.6	75.0	72.0	71.0	.8	.2	3.0	96.0	94.7	4.0
1941	95.2	3.3	91.9	81.9	80.8	.9	.2	10.0	89.1	87.9	10.9
1942	122.4	5.9	116.4	89.5	88.6	.7	.1	27.0	76.8	76.1	23.2
1943	150.7	17.8	132.9	100.2	99.5	.5	.2	32.7	75.4	74.8	24.6
1944	164.5	18.9	145.6	109.0	108.2	.5	.4	36.5	74.9	74.4	25.1
1945	170.0	20.8	149.2	120.5	119.6	.5	.5	28.7	80.8	80.2	19.2
1946	177.6	18.7	158.9	145.3	143.9	.7	.7	13.6	91.4	90.6	8.6
1947	190.2	21.4	168.8	163.6	161.9	1.0	.7	5.2	96.9	95.9	3.1
1948	209.2	21.0	188.1	177.0	174.9	1.4	.7	11.1	94.1	93.0	5.9
1949	206.4	18.5	187.9	180.6	178.3	1.7	.5	7.4	96.1	94.9	3.9
1950	228.1	20.6	207.5	194.8	192.1	2.3	.4	12.6	93.9	92.6	6.1
1951	256.5	28.9	227.6	211.0	208.1	2.5	.4	16.6	92.7	91.4	7.3
1952	273.8	34.0	239.8	222.4	219.1	2.9	.4	17.4	92.7	91.4	7.3
1953	290.5	35.5	255.1	236.7	232.6	3.6	.5	18.4	92.8	91.2	7.2
1954	293.0	32.5	260.5	244.1	239.8	3.8	.5	16.4	93.7	92.0	6.3
1955	314.2	35.4	278.8	262.8	257.9	4.4	.4	16.0	94.2	92.5	5.8
1956	337.2	39.7	297.5	276.2	270.6	5.1	.5	21.3	92.8	90.9	7.2
1957	356.3	42.4	313.9	291.2	285.3	5.5	.5	22.7	92.8	90.9	7.2
1958	367.1	42.2	324.9	300.6	294.6	5.6	.4	24.3	92.5	90.7	7.5
1959	390.7	46.1	344.6	322.8	316.3	6.1	.4	21.8	93.7	91.8	6.3
1960	409.4	50.5	358.9	338.1	330.7	7.0	.4	20.8	94.2	92.1	5.8
1961	426.0	52.2	373.8	348.9	341.1	7.3	.5	24.9	93.4	91.3	6.6
1962	453.2	57.0	396.2	370.2	361.9	7.8	.5	25.9	93.5	91.4	6.5
1963	476.3	60.5	415.8	391.2	381.7	8.8	.6	24.6	94.1	91.8	5.9
1964	510.2	58.8	451.4	419.9	409.3	9.9	.7	31.5	93.0	90.7	7.0
1965	552.0	65.2	486.8	452.5	440.7	11.1	.7	34.3	93.0	90.5	7.0
1966	600.8	74.9	525.9	489.9	477.3	12.0	.7	36.0	93.2	90.8	6.8
1967	644.5	82.4	562.1	516.9	503.6	12.5	.9	45.1	92.0	89.6	8.0
1968	707.2	97.7	609.6	567.1	552.5	13.8	.9	42.5	93.0	90.5	7.0
1969	772.9	116.3	656.7	614.5	597.9	15.6	1.0	42.2	93.6	91.0	6.4
1970	831.8	116.2	715.6	657.9	640.0	16.7	1.2	57.7	91.9	89.4	8.1
1971	894.0	117.3	776.8	710.5	691.6	17.7	1.2	66.3	91.5	89.0	8.5
1972	981.6	142.0	839.6	778.2	757.6	19.5	1.1	61.4	92.7	90.2	7.3
1973	1,101.7	152.0	949.8	860.8	837.2	22.3	1.3	89.0	90.6	88.2	9.4
1974	1,210.1	171.8	1,038.4	941.7	916.5	24.1	1.0	96.7	90.7	88.3	9.3
1975	1,313.4	170.6	1,142.8	1,038.2	1,012.8	24.4	1.0	104.6	90.8	88.6	9.2
1976	1,451.4	198.7	1,252.6	1,156.9	1,129.3	26.6	1.0	95.8	92.4	90.2	7.6
1977	1,607.5	228.1	1,379.3	1,288.6	1,257.2	30.5	.9	90.7	93.4	91.1	6.6
1978	1,812.4	261.1	1,551.2	1,441.1	1,403.5	36.7	.9	110.2	92.9	90.5	7.1
1979	2,034.0	304.7	1,729.3	1,611.3	1,566.8	43.5	1.0	118.1	93.2	90.6	6.8
1980	2,258.5	340.5	1,918.0	1,781.1	1,732.6	47.4	1.1	136.9	92.9	90.3	7.1
1981	2,520.9	393.3	2,127.6	1,968.1	1,915.1	52.0	1.0	159.4	92.5	90.0	7.5
1982	2,670.8	409.3	2,261.4	2,107.5	2,050.7	55.5	1.3	153.9	93.2	90.7	6.8
1983	2,838.6	410.5	2,428.1	2,297.4	2,234.5	61.9	1.0	130.6	94.6	92.0	5.4
1984	3,108.7	440.2	2,668.6	2,504.5	2,430.5	72.5	1.5	164.1	93.9	91.1	6.1
1985	3,325.3	486.6	2,838.7	2,713.3	2,629.0	82.6	1.7	125.4	95.6	92.6	4.4
1986	3,531.1	511.4	3,019.6	2,898.0	2,807.5	89.1	1.4	121.7	96.0	93.0	4.0
1987	3,780.0	570.3	3,209.7	3,105.5	3,012.1	92.1	1.3	104.2	96.8	93.8	3.2
1982: IV	2,729.2	411.1	2,318.1	2,174.9	2,117.0	56.8	1.1	143.1	93.8	91.3	6.2
1983: IV	2,941.8	413.9	2,527.9	2,382.5	2,315.8	65.5	1.2	145.4	94.2	91.6	5.8
1984: IV	3,188.3	459.7	2,728.6	2,571.3	2,493.4	76.3	1.6	157.3	94.2	91.4	5.8
1985: IV	3,399.1	499.6	2,899.5	2,787.7	2,700.4	85.9	1.4	111.7	96.1	93.1	3.9
1986: I	3,460.7	495.6	2,965.1	2,828.2	2,739.0	87.7	1.5	136.9	95.4	92.4	4.6
II	3,517.3	501.0	3,016.3	2,862.1	2,772.1	88.7	1.3	154.1	94.9	91.9	5.1
III	3,546.7	514.2	3,032.4	2,933.6	2,842.8	89.5	1.3	98.8	96.7	93.7	3.3
IV	3,599.6	534.9	3,064.7	2,967.9	2,876.0	90.4	1.6	96.8	96.8	93.8	3.2
1987: I	3,676.1	532.2	3,143.9	3,013.1	2,921.7	90.1	1.4	130.8	95.8	92.9	4.2
II	3,736.1	582.0	3,154.1	3,084.7	2,992.2	91.1	1.4	69.5	97.8	94.9	2.2
III	3,801.0	576.2	3,224.9	3,152.3	3,058.2	92.8	1.3	72.6	97.7	94.8	2.3
IV	3,906.8	591.0	3,315.8	3,171.8	3,076.3	94.4	1.2	144.0	95.7	92.8	4.3
1988: I	3,951.4	575.8	3,375.6	3,225.7	3,128.1	96.4	1.2	149.9	95.6	92.7	4.4
II	4,022.4	601.0	3,421.5	3,293.6	3,194.6	98.2	.8	127.8	96.3	93.4	3.7
III	4,094.0	586.5	3,507.5	3,361.8	3,261.2	99.8	.8	145.7	95.8	93.0	4.2

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–27.—*Total and per capita disposable personal income and personal consumption expenditures in current and 1982 dollars, 1929–88*

[Quarterly data at seasonally adjusted annual rates, except as noted]

Year or quarter	Disposable personal income				Personal consumption expenditures				Population (thousands) [1]
	Total (billions of dollars)		Per capita (dollars)		Total (billions of dollars)		Per capita (dollars)		
	Current dollars	1982 dollars	Current dollars	1982 dollars	Current dollars	1982 dollars	Current dollars	1982 dollars	
1929	81.7	498.6	671	4,091	77.3	471.4	634	3,868	121,878
1933	44.9	370.8	357	2,950	45.8	378.7	365	3,013	125,690
1939	69.7	499.5	532	3,812	67.0	480.5	511	3,667	131,028
1940	75.0	530.7	568	4,017	71.0	502.6	538	3,804	132,122
1941	91.9	604.1	689	4,528	80.8	531.1	606	3,981	133,402
1942	116.4	693.0	863	5,138	88.6	527.6	657	3,912	134,860
1943	132.9	721.4	972	5,276	99.5	539.9	727	3,949	136,739
1944	145.6	749.3	1,052	5,414	108.2	557.1	782	4,026	138,397
1945	149.2	739.5	1,066	5,285	119.6	592.7	855	4,236	139,928
1946	158.9	723.3	1,124	5,115	143.9	655.0	1,018	4,632	141,389
1947	168.8	694.8	1,171	4,820	161.9	666.6	1,123	4,625	144,126
1948	188.1	733.1	1,283	5,000	174.9	681.8	1,193	4,650	146,631
1949	187.9	733.2	1,260	4,915	178.3	695.4	1,195	4,661	149,188
1950	207.5	791.8	1,368	5,220	192.1	733.2	1,267	4,834	151,684
1951	227.6	819.0	1,475	5,308	208.1	748.7	1,349	4,853	154,287
1952	239.8	844.3	1,528	5,379	219.1	771.4	1,396	4,915	156,954
1953	255.1	880.0	1,599	5,515	232.6	802.5	1,458	5,029	159,565
1954	260.5	894.0	1,604	5,505	239.8	822.7	1,477	5,066	162,391
1955	278.8	944.5	1,687	5,714	257.9	873.8	1,560	5,287	165,275
1956	297.5	989.4	1,769	5,881	270.6	899.8	1,608	5,349	168,221
1957	313.9	1,012.1	1,833	5,909	285.3	919.7	1,666	5,370	171,274
1958	324.9	1,028.8	1,865	5,908	294.6	932.9	1,692	5,357	174,141
1959	344.6	1,067.2	1,946	6,027	316.3	979.4	1,786	5,531	177,073
1960	358.9	1,091.1	1,986	6,036	330.7	1,005.1	1,829	5,561	180,760
1961	373.8	1,123.2	2,034	6,113	341.1	1,025.2	1,857	5,579	183,742
1962	396.2	1,170.2	2,123	6,271	361.9	1,069.0	1,940	5,729	186,590
1963	415.8	1,207.3	2,197	6,378	381.7	1,108.4	2,017	5,855	189,300
1964	451.4	1,291.0	2,352	6,727	409.3	1,170.6	2,133	6,099	191,927
1965	486.8	1,365.7	2,505	7,027	440.7	1,236.4	2,268	6,362	194,347
1966	525.9	1,431.3	2,675	7,280	477.3	1,298.9	2,428	6,607	196,599
1967	562.1	1,493.2	2,828	7,513	503.6	1,337.7	2,534	6,730	198,752
1968	609.6	1,551.3	3,037	7,728	552.5	1,405.9	2,752	7,003	200,745
1969	656.7	1,599.8	3,239	7,891	597.9	1,456.7	2,949	7,185	202,736
1970	715.6	1,668.1	3,489	8,134	640.0	1,492.0	3,121	7,275	205,089
1971	776.8	1,728.4	3,740	8,322	691.6	1,538.8	3,330	7,409	207,692
1972	839.6	1,797.4	4,000	8,562	757.6	1,621.9	3,609	7,726	209,924
1973	949.8	1,916.3	4,481	9,042	837.2	1,689.6	3,950	7,972	211,939
1974	1,038.4	1,896.6	4,855	8,867	916.5	1,674.0	4,285	7,826	213,898
1975	1,142.8	1,931.7	5,291	8,944	1,012.8	1,711.9	4,689	7,926	215,981
1976	1,252.6	2,001.0	5,744	9,175	1,129.3	1,803.9	5,178	8,272	218,086
1977	1,379.3	2,066.6	6,262	9,381	1,257.2	1,883.8	5,707	8,551	220,289
1978	1,551.2	2,167.4	6,958	9,735	1,403.5	1,961.0	6,304	8,808	222,629
1979	1,729.3	2,212.6	7,682	9,829	1,566.8	2,004.4	6,960	8,904	225,106
1980	1,918.0	2,214.3	8,421	9,722	1,732.6	2,000.4	7,607	8,783	227,754
1981	2,127.6	2,248.6	9,243	9,769	1,915.1	2,024.2	8,320	8,794	230,182
1982	2,261.4	2,261.5	9,724	9,725	2,050.7	2,050.7	8,818	8,818	232,549
1983	2,428.1	2,331.9	10,340	9,930	2,234.5	2,146.0	9,516	9,139	234,829
1984	2,668.6	2,469.8	11,257	10,419	2,430.5	2,249.3	10,253	9,489	237,051
1985	2,838.7	2,542.8	11,861	10,625	2,629.0	2,354.8	10,985	9,840	239,322
1986	3,019.6	2,640.9	12,496	10,929	2,807.5	2,455.2	11,618	10,160	241,650
1987	3,209.7	2,686.3	13,157	11,012	3,012.1	2,521.0	12,347	10,334	243,944
1982: IV	2,318.1	2,276.1	9,929	9,749	2,117.0	2,078.7	9,068	8,904	233,466
1983: IV	2,527.9	2,392.7	10,725	10,151	2,315.8	2,191.9	9,825	9,299	235,707
1984: IV	2,728.6	2,496.3	11,467	10,491	2,493.4	2,281.1	10,479	9,587	237,946
1985: IV	2,899.5	2,562.8	12,068	10,667	2,700.4	2,386.9	11,240	9,935	240,257
1986: I	2,965.1	2,614.5	12,315	10,858	2,739.0	2,415.1	11,375	10,030	240,784
II	3,016.3	2,655.9	12,499	11,006	2,772.1	2,440.9	11,487	10,115	241,324
III	3,032.4	2,643.9	12,534	10,928	2,842.8	2,478.6	11,750	10,245	241,936
IV	3,064.7	2,649.4	12,635	10,923	2,876.0	2,486.2	11,857	10,250	242,557
1987: I	3,143.9	2,679.6	12,934	11,024	2,921.7	2,490.2	12,020	10,245	243,077
II	3,154.1	2,652.8	12,947	10,889	2,992.2	2,516.6	12,282	10,330	243,618
III	3,224.9	2,683.9	13,204	10,989	3,058.2	2,545.2	12,521	10,421	244,236
IV	3,315.8	2,728.9	13,543	11,145	3,076.3	2,531.7	12,564	10,340	244,845
1988: I	3,375.6	2,762.3	13,760	11,260	3,128.1	2,559.8	12,751	10,435	245,318
II	3,421.5	2,762.2	13,919	11,237	3,194.6	2,579.0	12,996	10,492	245,806
III	3,507.5	2,800.4	14,231	11,362	3,261.2	2,603.8	13,232	10,564	246,469

[1] Population of the United States including Armed Forces overseas; includes Alaska and Hawaii beginning 1960. Annual data are for July 1 through 1958 and are averages of quarterly data beginning 1959. Quarterly data are averages for the period.

Source: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census).

TABLE B–28.—*Gross saving and investment, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross saving								Gross investment			Statistical discrepancy
	Total	Gross private saving			Government surplus or deficit (−), national income and product accounts			Capital grants received by the United States (net) [2]	Total	Gross private domestic investment	Net foreign investment [3]	
		Total	Personal saving	Gross business saving [1]	Total	Federal	State and local					
1929	15.9	14.9	2.6	12.3	1.0	1.2	−0.2		17.4	16.7	0.8	1.5
1933	.6	1.9	−1.6	3.6	−1.4	−1.3	−.1		1.7	1.6	.2	1.2
1939	8.9	11.1	1.8	9.3	−2.2	−2.2	.0		10.6	9.5	1.0	1.7
1940	13.6	14.3	3.0	11.3	−.7	−1.3	.6		15.0	13.4	1.5	1.4
1941	18.8	22.6	10.0	12.6	−3.8	−5.1	1.3		19.5	18.3	1.3	.7
1942	10.9	42.3	27.0	15.3	−31.4	−33.1	1.8		10.2	10.3	−.1	−.7
1943	5.8	50.0	32.7	17.3	−44.2	−46.6	2.4		4.1	6.2	−2.1	−1.7
1944	3.0	54.9	36.5	18.4	−51.8	−54.5	2.7		5.8	7.7	−2.0	2.7
1945	5.9	45.4	28.7	16.8	−39.5	−42.1	2.6		10.0	11.3	−1.3	4.0
1946	35.7	30.3	13.6	16.7	5.4	3.5	1.9		36.4	31.5	4.9	.7
1947	42.5	28.1	5.2	23.0	14.4	13.4	1.0		44.3	35.0	9.3	1.8
1948	50.8	42.4	11.1	31.3	8.4	8.3	.1		49.6	47.1	2.4	−1.3
1949	36.5	39.9	7.4	32.5	−3.4	−2.6	−.7		37.3	36.5	.9	.8
1950	52.5	44.5	12.6	31.8	8.0	9.2	−1.2		53.2	55.1	−1.8	.8
1951	58.7	52.6	16.6	36.0	6.1	6.5	−.4		61.4	60.5	.9	2.7
1952	52.3	56.1	17.4	38.7	−3.8	−3.7	.0		54.2	53.5	.6	1.8
1953	51.0	58.0	18.4	39.6	−7.0	−7.1	.1		53.6	54.9	−1.3	2.6
1954	51.6	58.8	16.4	42.3	−7.1	−6.0	−1.1		54.3	54.1	.2	2.7
1955	68.4	65.2	16.0	49.2	3.1	4.4	−1.3		70.2	69.7	.4	1.8
1956	77.3	72.1	21.3	50.8	5.2	6.1	−.9		75.4	72.7	2.8	−1.9
1957	77.1	76.1	22.7	53.5	.9	2.3	−1.4		75.9	71.1	4.8	−1.2
1958	64.5	77.1	24.3	52.9	−12.6	−10.3	−2.4		64.5	63.6	.1	−.1
1959	80.5	82.1	21.8	60.3	−1.6	−1.1	−.4		79.0	80.2	−1.2	−1.5
1960	84.2	81.1	20.8	60.3	3.1	3.0	.1		81.4	78.2	3.2	−2.8
1961	82.6	86.8	24.9	62.0	−4.3	−3.9	−.4		81.3	77.1	4.2	−1.2
1962	91.4	95.2	25.9	69.3	−3.8	−4.2	.5		91.5	87.6	3.8	.0
1963	98.7	97.9	24.6	73.3	.7	.3	.5		98.1	93.1	4.9	−.6
1964	108.5	110.8	31.5	79.3	−2.3	−3.3	1.0		107.1	99.6	7.5	−1.4
1965	123.5	123.0	34.3	88.7	.5	.5	.0		122.3	116.2	6.2	−1.2
1966	130.3	131.6	36.0	95.6	−1.3	−1.8	.5		132.4	128.6	3.8	2.1
1967	129.5	143.8	45.1	98.6	−14.2	−13.2	−1.1		129.2	125.7	3.5	−.4
1968	139.7	145.7	42.5	103.3	−6.0	−6.0	.1		138.6	137.0	1.6	−1.1
1969	158.8	148.9	42.2	106.7	9.9	8.4	1.5		154.9	153.2	1.7	−3.9
1970	154.7	164.5	57.7	106.7	−10.6	−12.4	1.8	0.9	153.6	148.8	4.8	−1.1
1971	171.9	190.6	66.3	124.3	−19.5	−22.0	2.6	.7	173.7	172.5	1.3	1.8
1972	200.7	203.4	61.4	142.0	−3.4	−16.8	13.5	.7	199.1	202.0	−2.9	−1.6
1973	251.9	244.0	89.0	155.0	7.9	−5.6	13.5	0	247.6	238.8	8.8	−4.3
1974	247.9	254.3	96.7	157.6	−4.3	−11.6	7.2	[4] −2.0	246.2	240.8	5.4	−1.7
1975	238.7	303.6	104.6	198.9	−64.9	−69.4	4.5	0	241.2	219.6	21.6	2.5
1976	283.0	321.4	95.8	225.6	−38.4	−53.5	15.2	0	286.6	277.7	9.0	3.6
1977	335.4	354.5	90.7	263.8	−19.1	−46.0	26.9	0	335.3	344.1	−8.7	.0
1978	408.6	409.0	110.2	298.9	−.4	−29.3	28.9	0	406.7	416.8	−10.1	−1.9
1979	458.4	445.8	118.1	327.7	11.5	−16.1	27.6	1.1	457.4	454.8	2.6	−1.0
1980	445.0	478.4	136.9	341.5	−34.5	−61.3	26.8	1.2	450.0	437.0	13.0	4.9
1981	522.0	550.5	159.4	391.1	−29.7	−63.8	34.1	1.1	526.1	515.5	10.6	4.1
1982	446.4	557.1	153.9	403.2	−110.8	−145.9	35.1	0	446.3	447.3	−1.0	−.1
1983	463.6	592.2	130.6	461.6	−128.6	−176.0	47.5	0	468.8	502.3	−33.5	5.2
1984	568.5	673.5	164.1	509.5	−105.0	−169.6	64.6	0	573.9	664.8	−90.9	5.4
1985	533.5	665.3	125.4	539.9	−131.8	−196.9	65.1	0	528.7	643.1	−114.4	−4.8
1986	537.2	681.6	121.7	560.0	−144.4	−205.6	61.2	0	523.6	665.9	−142.4	−13.6
1987	560.4	665.3	104.2	561.1	−104.9	−157.8	52.9	0	552.3	712.9	−160.6	−8.1
1982: IV	387.4	554.2	143.1	411.1	−166.8	−202.6	35.8	0	394.2	409.6	−15.4	6.8
1983: IV	519.9	632.8	145.4	487.3	−112.9	−169.2	56.4	0	522.4	579.8	−57.4	2.5
1984: IV	557.8	679.9	157.3	522.6	−122.1	−187.5	65.4	0	555.7	661.8	−106.1	−2.1
1985: IV	520.3	666.3	111.7	554.5	−145.9	−212.2	66.3	0	512.4	654.1	−141.6	−7.9
1986: I	571.2	702.5	136.9	565.6	−131.4	−198.6	67.2	0	559.1	686.6	−127.4	−12.0
II	537.5	711.8	154.1	557.7	−174.3	−234.4	60.1	0	527.9	667.8	−139.8	−9.5
III	517.7	661.1	98.8	562.3	−143.5	−206.1	62.7	0	504.0	653.0	−149.0	−13.6
IV	522.5	651.0	96.8	554.3	−128.5	−183.3	54.8	0	503.2	656.4	−153.3	−19.4
1987: I	539.2	679.8	130.8	549.0	−140.6	−188.3	47.7	0	530.6	685.5	−154.8	−8.5
II	542.4	625.0	69.5	555.5	−82.6	−144.0	61.4	0	539.9	698.5	−158.6	−2.5
III	556.8	642.2	72.6	569.6	−85.5	−138.3	52.9	0	541.7	702.8	−161.1	−15.1
IV	603.4	714.1	144.0	570.1	−110.7	−160.4	49.7	0	597.0	764.9	−167.8	−6.4
1988: I	627.0	726.3	149.9	576.3	−99.2	−155.1	55.8	0	612.0	763.4	−151.3	−15.0
II	634.1	711.2	127.8	583.3	−77.1	−133.3	56.2	0	629.0	758.1	−129.1	−5.1
III	665.4	732.9	145.7	587.3	−67.5	−123.5	56.0	0	651.4	772.5	−121.1	−14.0

[1] Undistributed corporate profits with inventory valuation and capital consumption adjustments, corporate and noncorporate capital consumption allowances with capital consumption adjustment, and private wage accruals less disbursements.

[2] Allocations of special drawing rights (SDRs), except as noted in footnote 4.

[3] Net exports of goods and services less net transfers to foreigners and interest paid by government to foreigners plus capital grants received by the United States, net.

[4] In February 1974, the U.S. Government paid to India $2,010 million in rupees under provisions of the Agricultural Trade Development and Assistance Act. This transaction is being treated as capital grants paid to foreigners, i.e., a −$2.0 billion entry in capital grants received by the United States, net.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–29.—*Saving by individuals, 1946–88*[1]

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Total	Increase in financial assets									Net investment in [7]			Less: Net increase in debt		
		Total	Checkable deposits and currency	Time and savings deposits	Money market fund shares	Securities			Insurance and pension reserves [6]	Other financial assets [6]	Owner-occupied homes	Consumer durables	Noncorporate business assets [8]	Mortgage debt on nonfarm homes	Consumer credit	Other debt [8 9]
						Government securities [2]	Corporate equities [3]	Other securities [4]								
1946	24.9	19.5	5.6	6.3		−1.5	1.2	−0.8	5.1	3.7	3.8	6.7	2.0	4.0	2.9	0.2
1947	19.4	12.5	.1	3.4		.5	1.1	−.7	5.4	2.6	7.0	9.4	1.3	4.9	3.5	2.4
1948	25.9	9.8	−2.9	2.2		1.9	1.0	.1	5.3	2.1	9.5	10.2	6.9	4.8	3.1	2.6
1949	22.2	10.4	−2.0	2.6		2.1	.7	−.2	5.6	1.6	8.7	10.9	2.0	4.4	3.1	2.3
1950	30.8	13.9	2.6	2.5		−.2	.7	−.7	6.1	2.9	12.1	14.9	7.2	7.1	4.6	5.7
1951	35.1	19.0	4.6	4.8		−.5	1.8	.3	6.3	1.6	12.1	11.4	4.4	6.6	1.4	3.8
1952	32.3	25.1	1.6	7.8		3.8	1.5	.0	7.7	2.8	11.7	8.7	1.9	6.4	5.2	3.5
1953	32.9	23.3	1.0	8.2		2.3	1.0	.5	7.9	2.4	12.7	10.3	.8	7.6	4.1	2.5
1954	27.4	21.3	2.2	9.2		.2	.7	−.8	7.8	2.0	13.1	7.0	1.7	9.0	1.4	5.3
1955	36.6	29.0	1.2	8.6		6.9	1.1	1.0	8.5	1.7	17.3	12.7	2.9	12.3	7.0	6.1
1956	38.3	31.6	1.8	9.5		4.4	2.0	1.1	9.5	3.4	16.2	8.8	1.0	11.0	3.6	4.6
1957	37.2	28.0	−.4	12.0		2.9	1.5	.8	9.5	1.9	13.8	7.9	2.1	8.8	2.6	3.2
1958	34.7	32.2	3.8	13.9		−2.9	1.8	1.0	10.4	4.3	12.8	3.7	2.9	9.6	.3	6.9
1959	37.2	34.9	.8	11.1		8.8	.6	−.2	11.9	1.9	17.0	7.7	4.3	12.9	7.7	6.1
1960	38.0	33.4	1.0	12.1		2.8	.0	2.3	11.5	3.7	15.7	7.3	3.2	11.4	4.0	6.1
1961	37.0	35.6	−.9	18.3		1.0	1.1	−.2	12.1	4.3	13.5	4.5	4.9	12.3	2.2	7.0
1962	43.2	39.8	−1.2	26.1		1.1	−1.4	−.4	13.0	2.5	14.0	8.6	7.0	13.9	5.9	6.4
1963	47.4	46.1	4.2	26.3		−.1	−1.6	1.3	13.9	2.1	15.5	11.9	9.2	16.6	8.5	10.1
1964	57.8	56.1	5.3	26.2		5.1	−.3	.3	16.4	3.1	15.7	15.1	8.8	17.4	9.5	11.1
1965	65.1	58.1	7.6	27.9		3.3	−1.6	.8	17.0	3.1	15.3	20.2	12.4	17.1	10.1	13.7
1966	73.6	58.0	2.4	19.2		10.8	−.1	2.4	18.3	4.1	14.5	23.2	9.9	13.4	5.9	12.5
1967	79.5	70.5	9.9	35.3		−2.0	−3.3	5.2	18.8	6.7	12.6	21.3	10.7	12.9	5.1	17.6
1968	82.0	74.1	11.1	31.0		4.8	−6.2	7.8	19.9	5.7	17.0	26.9	10.0	17.2	10.8	18.1
1969	72.7	65.8	−2.5	9.0		25.8	−2.2	10.0	21.8	3.9	17.2	26.2	13.3	18.3	10.1	21.5
1970	89.4	80.5	8.9	43.2		−5.9	−.7	6.9	24.2	3.9	14.6	19.9	13.1	13.5	4.6	20.6
1971	99.4	105.3	12.3	67.6		−11.2	−4.3	6.7	28.0	6.2	22.3	25.7	19.5	26.2	14.1	33.2
1972	119.2	134.9	13.6	73.8		−.2	−8.8	−1.0	48.5	9.2	29.2	34.8	26.6	38.8	19.0	48.4
1973	157.4	148.4	13.3	63.3		19.2	−4.3	8.5	39.9	8.4	33.1	41.2	31.9	44.2	23.0	30.0
1974	122.4	149.5	6.5	56.0	2.4	21.0	−2.1	12.7	43.7	9.3	27.9	29.9	14.9	34.6	9.0	56.2
1975	162.0	179.3	6.1	77.6	1.3	22.3	−6.2	−3.9	71.9	10.1	27.5	28.4	7.5	38.8	8.0	33.9
1976	162.9	205.0	15.6	107.1	.0	3.9	−.5	5.7	56.6	16.6	41.9	42.9	2.7	60.8	22.9	45.9
1977	187.6	250.7	19.7	106.6	−.2	12.6	−7.3	15.4	78.6	25.4	61.0	53.3	15.2	91.5	36.7	64.4
1978	200.2	287.1	22.4	99.2	6.0	31.1	−12.5	11.1	95.0	34.9	77.8	58.8	18.9	109.4	45.1	87.9
1979	203.0	325.6	35.7	74.7	30.6	65.3	−25.5	4.1	101.8	38.8	86.7	54.0	12.4	117.1	40.5	118.2
1980	203.4	320.3	8.9	124.9	24.5	27.5	−9.9	−9.6	118.5	35.4	66.6	31.9	−6.2	96.4	2.6	110.2
1981	246.0	320.5	35.2	72.1	90.7	46.1	−36.6	−13.8	117.9	8.8	59.7	37.4	19.5	73.8	16.9	100.4
1982	264.7	380.3	25.8	118.3	32.8	68.9	−11.9	−23.1	148.0	21.3	35.6	37.2	−4.0	52.9	16.4	115.1
1983	309.7	480.4	34.4	198.8	−31.1	91.7	1.1	−2.6	159.2	28.9	76.2	62.7	−11.6	120.4	49.0	128.6
1984	372.0	540.8	26.7	221.5	44.0	112.2	−51.7	−6.2	157.7	36.6	95.4	98.8	14.4	136.7	81.6	159.1
1985	323.3	543.8	35.7	125.7	12.1	120.1	−35.0	41.5	185.6	58.1	97.1	117.6	1.0	157.0	82.5	196.7
1986	343.6	514.2	94.1	101.5	34.2	−22.7	26.1	21.0	192.7	67.2	118.8	126.0	6.5	210.9	54.4	156.5
1987	354.4	480.6	16.4	98.6	28.9	131.4	−19.8	11.2	196.4	17.4	135.4	116.5	−9.5	221.2	40.7	106.7
1986: I	336.3	466.2	62.5	129.0	38.8	−72.3	61.2	9.0	162.4	75.5	113.6	109.0	4.3	149.3	55.1	152.4
II	288.2	435.1	90.8	85.4	45.8	−80.4	18.7	59.3	169.5	46.1	115.2	115.7	14.3	192.8	60.3	138.9
III	376.8	578.6	63.4	129.3	56.1	32.4	2.8	−5.5	245.4	54.5	117.6	146.9	9.3	258.2	59.5	157.9
IV	373.3	576.9	159.6	62.5	−3.8	29.7	21.8	21.2	193.3	92.6	129.2	132.2	−1.9	243.3	42.8	176.9
1987: I	308.1	373.4	−67.2	20.3	13.8	60.6	104.4	5.4	205.6	30.6	137.9	107.1	−13.4	224.8	−.3	72.3
II	336.7	532.1	63.5	80.3	3.5	209.6	−86.5	3.5	245.6	12.7	128.1	117.3	−.2	242.5	52.4	145.8
III	314.4	473.3	55.1	92.0	36.1	125.9	−56.7	3.3	178.9	38.6	138.8	132.6	−15.8	211.8	61.4	141.4
IV	458.5	543.7	14.5	202.0	62.2	129.6	−40.5	32.6	155.5	−12.2	137.2	109.0	−8.8	205.9	49.4	67.1
1988: I	422.5	485.3	5.8	199.2	50.8	104.0	−40.3	−108.0	248.4	25.3	143.2	120.5	.0	178.2	34.8	113.5
II	377.3	498.0	58.4	130.5	−28.8	62.6	−128.5	130.2	228.9	43.7	143.6	128.3	−3.0	228.1	59.5	102.0
III	423.3	564.9	5.5	177.4	13.2	178.8	−77.0	10.0	192.0	65.1	148.0	126.0	−7.4	210.4	43.3	154.4

[1] Saving by households, personal trust funds, nonprofit institutions, farms, and other noncorporate business.
[2] Consists of U.S. savings bonds, other U.S. Treasury securities, U.S. Government agency securities and sponsored agency securities, mortgage pool securities, and State and local obligations.
[3] Includes mutual fund shares.
[4] Corporate and foreign bonds and open-market paper.
[5] Private life insurance reserves, private insured and noninsured pension reserves, and government insurance and pension reserves.
[6] Consists of security credit, mortgages, accident and health insurance reserves, and nonlife insurance claims for households and of consumer credit, equity in sponsored agencies, and nonlife insurance claims for noncorporate business.
[7] Purchases of physical assets less depreciation.
[8] Includes data for corporate farms.
[9] Other debt consists of security credit, policy loans, and noncorporate business debt.

Source: Board of Governors of the Federal Reserve System.

TABLE B–30.—*Number and median income (in 1987 dollars) of families and persons, and poverty status, by race, selected years, 1965–87*

Year	Families [1]						Persons below poverty level		Median income of persons 15 years old and over with income [2]			
			Below poverty level						Males		Females	
			Total		Female householder							
	Number (millions)	Median income	Number (millions)	Rate	Number (millions)	Rate	Number (millions)	Rate	All persons	Year-round full-time workers	All persons	Year-round full-time workers
ALL RACES												
1965	48.5	$25,060	6.7	13.9	1.9	38.4	33.2	17.3	$18,093	$23,767	$5,479	$13,748
1966 [3]	49.2	26,377	5.8	11.8	1.7	33.1	28.5	14.7	18,582	24,358	5,736	14,098
1967	50.1	27,004	5.7	11.4	1.8	33.3	27.8	14.2	18,902	24,812	6,131	14,290
1968	50.8	28,199	5.0	10.0	1.8	32.3	25.4	12.8	19,535	25,527	6,596	14,923
1969	51.6	29,244	5.0	9.7	1.8	32.7	24.1	12.1	19,931	26,872	6,610	15,740
1970	52.2	28,880	5.3	10.1	2.0	32.5	25.4	12.6	19,523	26,881	6,548	15,922
1971	53.3	28,862	5.3	10.0	2.1	33.9	25.6	12.5	19,372	27,027	6,757	15,999
1972	54.4	30,199	5.1	9.3	2.2	32.7	24.5	11.9	20,239	28,628	7,061	16,444
1973	55.1	30,820	4.8	8.8	2.2	32.2	23.0	11.1	20,603	29,329	7,151	16,593
1974 [3]	55.7	29,735	4.9	8.8	2.3	32.1	23.4	11.2	19,479	28,029	7,103	16,534
1975	56.2	28,970	5.5	9.7	2.4	32.5	25.9	12.3	18,695	27,312	7,148	16,300
1976	56.7	29,863	5.3	9.4	2.5	33.0	25.0	11.8	18,819	27,669	7,139	16,595
1977	57.2	30,025	5.3	9.3	2.6	31.7	24.7	11.6	18,986	28,263	7,391	16,531
1978	57.8	30,730	5.3	9.1	2.7	31.4	24.5	11.4	19,050	27,981	7,087	16,795
1979 [4]	59.6	30,669	5.5	9.2	2.6	30.4	26.1	11.7	18,443	27,368	6,814	16,489
1980	60.3	28,996	6.2	10.3	3.0	32.7	29.3	13.0	17,282	26,444	6,786	15,987
1981	61.0	27,977	6.9	11.2	3.3	34.6	31.8	14.0	16,836	25,858	6,820	15,567
1982	61.4	27,591	7.5	12.2	3.4	36.3	34.4	15.0	16,425	25,498	6,932	16,087
1983 [3]	62.0	28,147	7.6	12.3	3.6	36.0	35.3	15.2	16,725	25,674	7,307	16,528
1984	62.7	28,923	7.3	11.6	3.5	34.5	33.7	14.4	17,069	26,265	7,515	16,875
1985	63.6	29,302	7.2	11.4	3.5	34.0	33.1	14.0	17,232	26,411	7,625	17,170
1986	64.5	30,534	7.0	10.9	3.6	34.6	32.4	13.6	17,739	26,840	7,888	17,458
1987	65.1	30,853	7.1	10.8	3.6	34.3	32.5	13.5	17,752	26,722	8,101	17,504
WHITE												
1970	46.5	29,960	3.7	8.0	1.1	25.0	17.5	9.9	20,521	27,651	6,632	16,203
1971	47.6	29,948	3.8	7.9	1.2	26.5	17.8	9.9	20,309	27,788	6,870	16,184
1972	48.5	31,375	3.4	7.1	1.1	24.3	16.2	9.0	21,228	29,661	7,107	16,767
1973	48.9	32,211	3.2	6.6	1.2	24.5	15.1	8.4	21,618	30,178	7,220	16,874
1974 [3]	49.4	30,901	3.4	6.8	1.3	24.8	15.7	8.6	20,406	28,575	7,184	16,675
1975	49.9	30,129	3.8	7.7	1.4	25.9	17.8	9.7	19,638	27,944	7,222	16,338
1976	50.1	31,019	3.6	7.1	1.4	25.2	16.7	9.1	19,839	28,493	7,199	16,723
1977	50.5	31,396	3.5	7.0	1.4	24.0	16.4	8.9	19,886	28,841	7,504	16,635
1978	50.9	31,998	3.5	6.9	1.4	23.5	16.3	8.7	19,952	28,501	7,172	16,954
1979 [4]	52.2	32,003	3.6	6.9	1.4	22.3	17.2	9.0	19,267	28,159	6,878	16,633
1980	52.7	30,211	4.2	8.0	1.6	25.7	19.7	10.2	18,383	27,199	6,823	16,141
1981	53.3	29,388	4.7	8.8	1.8	27.4	21.6	11.1	17,865	26,465	6,897	15,827
1982	53.4	28,969	5.1	9.6	1.8	27.9	23.5	12.0	17,365	26,177	7,026	16,304
1983 [3]	53.9	29,474	5.2	9.7	1.9	28.3	24.0	12.1	17,595	26,359	7,434	16,748
1984	54.4	30,294	4.9	9.1	1.9	27.1	23.0	11.5	18,018	27,165	7,603	17,042
1985	55.0	30,799	5.0	9.1	2.0	27.4	22.9	11.4	18,078	27,144	7,773	17,413
1986	55.7	31,935	4.8	8.6	2.0	28.2	22.2	11.0	18,720	27,590	8,044	17,726
1987	56.0	32,274	4.6	8.2	1.9	26.7	21.4	10.5	18,854	27,468	8,279	17,775
BLACK												
1970	4.9	18,378	1.5	29.5	.8	54.3	7.5	33.5	12,167	18,835	6,038	13,276
1971	5.2	18,072	1.5	28.8	.9	53.5	7.4	32.5	12,112	19,001	6,019	14,290
1972	5.3	18,647	1.5	29.0	1.0	53.3	7.7	33.3	12,858	20,030	6,640	14,344
1973	5.4	18,590	1.5	28.1	1.0	52.7	7.4	31.4	13,076	20,340	6,516	14,309
1974 [3]	5.5	18,451	1.5	26.9	1.0	52.2	7.2	30.3	12,376	20,062	6,467	14,683
1975	5.6	18,538	1.5	27.1	1.0	50.1	7.5	31.3	11,741	20,796	6,561	15,609
1976	5.8	18,451	1.6	27.9	1.1	52.2	7.6	31.1	11,945	20,408	6,784	15,634
1977	5.8	17,935	1.6	28.2	1.2	51.0	7.7	31.3	11,801	19,884	6,480	15,548
1978	5.9	18,952	1.6	27.5	1.2	50.6	7.6	30.6	11,952	21,829	6,458	15,714
1979 [4]	6.2	18,122	1.7	27.8	1.2	49.4	8.1	31.0	11,927	20,294	6,260	15,241
1980	6.3	17,481	1.8	28.9	1.3	49.4	8.6	32.5	11,046	19,138	6,317	15,055
1981	6.4	16,578	2.0	30.8	1.4	52.9	9.2	34.2	10,623	18,724	6,127	14,293
1982	6.5	16,011	2.2	33.0	1.5	56.2	9.7	35.6	10,406	18,591	6,197	14,572
1983 [3]	6.7	16,610	2.2	32.3	1.5	53.7	9.9	35.7	10,229	18,794	6,323	14,867
1984	6.8	16,884	2.1	30.9	1.5	51.7	9.5	33.8	10,338	18,539	6,745	15,358
1985	6.9	17,734	2.0	28.7	1.5	50.5	8.9	31.3	11,376	18,986	6,632	15,414
1986	7.1	18,247	2.0	28.0	1.5	50.1	9.0	31.1	11,217	19,452	6,806	15,510
1987	7.2	18,098	2.1	29.9	1.6	51.8	9.7	33.1	11,101	19,385	6,796	16,211

[1] The term "family" refers to a group of two or more persons related by blood, marriage, or adoption and residing together; all such persons are considered members of the same family. Beginning 1979, based on householder concept and restricted to primary families.
[2] Prior to 1979, data are for persons 14 years and over.
[3] Based on revised methodology; comparable with succeeding years.
[4] Based on 1980 census population controls; comparable with succeeding years.

Note.—The poverty level is based on the poverty index adopted by a Federal interagency committee in 1969. That index reflected different consumption requirements for families based on size and composition, sex and age of family householder, and farm-nonfarm residence. Minor revisions implemented in 1981 eliminated variations in the poverty thresholds based on two of these variables, farm-nonfarm residence and sex of householder. The poverty thresholds are updated every year to reflect changes in the consumer price index. For further details, see "Current Population Reports," Series P–60, No. 160.

Source: Department of Commerce, Bureau of the Census.

TABLE B–31.—*Population by age groups, 1929–88*

[Thousands of persons]

July 1	Total	Age (years)						
		Under 5	5–15	16–19	20–24	25–44	45–64	65 and over
1929	121,767	11,734	26,800	9,127	10,694	35,862	21,076	6,474
1933	125,579	10,612	26,897	9,302	11,152	37,319	22,933	7,363
1939	130,880	10,418	25,179	9,822	11,519	39,354	25,823	8,764
1940	132,122	10,579	24,811	9,895	11,690	39,868	26,249	9,031
1941	133,402	10,850	24,516	9,840	11,807	40,383	26,718	9,288
1942	134,860	11,301	24,231	9,730	11,955	40,861	27,196	9,584
1943	136,739	12,016	24,093	9,607	12,064	41,420	27,671	9,867
1944	138,397	12,524	23,949	9,561	12,062	42,015	28,138	10,147
1945	139,928	12,979	23,907	9,361	12,036	42,521	28,630	10,494
1946	141,389	13,244	24,103	9,119	12,004	43,027	29,064	10,828
1947	144,126	14,406	24,468	9,097	11,814	43,657	29,498	11,185
1948	146,631	14,919	25,209	8,952	11,794	44,288	29,931	11,538
1949	149,188	15,607	25,852	8,788	11,700	44,916	30,405	11,921
1950	152,271	16,410	26,721	8,542	11,680	45,672	30,849	12,397
1951	154,878	17,333	27,279	8,446	11,552	46,103	31,362	12,803
1952	157,553	17,312	28,894	8,414	11,350	46,495	31,884	13,203
1953	160,184	17,638	30,227	8,460	11,062	46,786	32,394	13,617
1954	163,026	18,057	31,480	8,637	10,832	47,001	32,942	14,076
1955	165,931	18,566	32,682	8,744	10,714	47,194	33,506	14,525
1956	168,903	19,003	33,994	8,916	10,616	47,379	34,057	14,938
1957	171,984	19,494	35,272	9,195	10,603	47,440	34,591	15,388
1958	174,882	19,887	36,445	9,543	10,756	47,337	35,109	15,806
1959	177,830	20,175	37,368	10,215	10,969	47,192	35,663	16,248
1960	180,671	20,341	38,494	10,683	11,134	47,140	36,203	16,675
1961	183,691	20,522	39,765	11,025	11,483	47,084	36,722	17,089
1962	186,538	20,469	41,205	11,180	11,959	47,013	37,255	17,457
1963	189,242	20,342	41,626	12,007	12,714	46,994	37,782	17,778
1964	191,889	20,165	42,297	12,736	13,269	46,958	38,338	18,127
1965	194,303	19,824	42,938	13,516	13,746	46,912	38,916	18,451
1966	196,560	19,208	43,702	14,311	14,050	47,001	39,534	18,755
1967	198,712	18,563	44,244	14,200	15,248	47,194	40,193	19,071
1968	200,706	17,913	44,622	14,452	15,786	47,721	40,846	19,365
1969	202,677	17,376	44,840	14,800	16,480	48,064	41,437	19,680
1970	205,052	17,166	44,816	15,289	17,202	48,473	41,999	20,107
1971	207,661	17,244	44,591	15,688	18,159	48,936	42,482	20,561
1972	209,896	17,101	44,203	16,039	18,153	50,482	42,858	21,020
1973	211,909	16,851	43,582	16,446	18,521	51,749	43,235	21,525
1974	213,854	16,487	42,989	16,769	18,975	53,051	43,522	22,061
1975	215,973	16,121	42,508	17,017	19,527	54,302	43,801	22,696
1976	218,035	15,617	42,099	17,194	19,986	55,852	44,008	23,278
1977	220,239	15,564	41,298	17,276	20,499	57,561	44,150	23,892
1978	222,585	15,735	40,428	17,288	20,946	59,400	44,286	24,502
1979	225,055	16,063	39,552	17,242	21,297	61,379	44,390	25,134
1980	227,757	16,458	38,844	17,160	21,584	63,494	44,515	25,704
1981	230,138	16,931	38,190	16,771	21,821	65,619	44,569	26,235
1982	232,520	17,298	37,877	16,255	21,807	67,856	44,602	26,825
1983	234,799	17,651	37,668	15,704	21,700	69,971	44,680	27,426
1984	237,001	17,830	37,657	15,141	21,536	72,049	44,818	27,971
1985	239,279	18,004	37,691	14,819	21,214	74,077	44,934	28,540
1986	241,613	18,152	37,706	14,802	20,608	76,124	45,055	29,167
1987	243,915	18,252	37,685	14,958	19,984	77,897	45,303	29,835
1988	246,113							

Note.—Includes Armed Forces overseas beginning 1940. Includes Alaska and Hawaii beginning 1950.

Source: Department of Commerce, Bureau of the Census.

TABLE B–32.—*Population and the labor force, 1929–88*

[Monthly data seasonally adjusted, except as noted]

Year or month	Civilian noninstitutional population [1]	Resident Armed Forces [1]	Labor force including resident Armed Forces	Employment including resident Armed Forces	Civilian labor force					Unemployment rate		Civilian labor force participation rate [4]	Civilian employment/population ratio [5]
					Total	Employment			Unemployment	All workers [2]	Civilian workers [3]		
						Total	Agricultural	Nonagricultural					
	Thousands of persons 14 years of age and over									Percent			
1929					49,180	47,630	10,450	37,180	1,550		3.2		
1933					51,590	38,760	10,090	28,670	12,830		24.9		
1939					55,230	45,750	9,610	36,140	9,480		17.2		
1940	99,840				55,640	47,520	9,540	37,980	8,120		14.6	55.7	47.6
1941	99,900				55,910	50,350	9,100	41,250	5,560		9.9	56.0	50.4
1942	98,640				56,410	53,750	9,250	44,500	2,660		4.7	57.2	54.5
1943	94,640				55,540	54,470	9,080	45,390	1,070		1.9	58.7	57.6
1944	93,220				54,630	53,960	8,950	45,010	670		1.2	58.6	57.9
1945	94,090				53,860	52,820	8,580	44,240	1,040		1.9	57.2	56.1
1946	103,070				57,520	55,250	8,320	46,930	2,270		3.9	55.8	53.6
1947	106,018				60,168	57,812	8,256	49,557	2,356		3.9	56.8	54.5
	Thousands of persons 16 years of age and over												
1947	101,827				59,350	57,038	7,890	49,148	2,311		3.9	58.3	56.0
1948	103,068				60,621	58,343	7,629	50,714	2,276		3.8	58.8	56.6
1949	103,994				61,286	57,651	7,658	49,993	3,637		5.9	58.9	55.4
1950	104,995	1,169	63,377	60,087	62,208	58,918	7,160	51,758	3,288	5.2	5.3	59.2	56.1
1951	104,621	2,143	64,160	62,104	62,017	59,961	6,726	53,235	2,055	3.2	3.3	59.2	57.3
1952	105,231	2,386	64,524	62,636	62,138	60,250	6,500	53,749	1,883	2.9	3.0	59.0	57.3
1953 [6]	107,056	2,231	65,246	63,410	63,015	61,179	6,260	54,919	1,834	2.8	2.9	58.9	57.1
1954	108,321	2,142	65,785	62,251	63,643	60,109	6,205	53,904	3,532	5.4	5.5	58.8	55.5
1955	109,683	2,064	67,087	64,234	65,023	62,170	6,450	55,722	2,852	4.3	4.4	59.3	56.7
1956	110,954	1,965	68,517	65,764	66,552	63,799	6,283	57,514	2,750	4.0	4.1	60.0	57.5
1957	112,265	1,948	68,877	66,019	66,929	64,071	5,947	58,123	2,859	4.2	4.3	59.6	57.1
1958	113,727	1,847	69,486	64,883	67,639	63,036	5,586	57,450	4,602	6.6	6.8	59.5	55.4
1959	115,329	1,788	70,157	66,418	68,369	64,630	5,565	59,065	3,740	5.3	5.5	59.3	56.0
1960 [6]	117,245	1,861	71,489	67,639	69,628	65,778	5,458	60,318	3,852	5.4	5.5	59.4	56.1
1961	118,771	1,900	72,359	67,646	70,459	65,746	5,200	60,546	4,714	6.5	6.7	59.3	55.4
1962 [6]	120,153	2,061	72,675	68,763	70,614	66,702	4,944	61,759	3,911	5.4	5.5	58.8	55.5
1963	122,416	2,006	73,839	69,768	71,833	67,762	4,687	63,076	4,070	5.5	5.7	58.7	55.4
1964	124,485	2,018	75,109	71,323	73,091	69,305	4,523	64,782	3,786	5.0	5.2	58.7	55.7
1965	126,513	1,946	76,401	73,034	74,455	71,088	4,361	66,726	3,366	4.4	4.5	58.9	56.2
1966	128,058	2,122	77,892	75,017	75,770	72,895	3,979	68,915	2,875	3.7	3.8	59.2	56.9
1967	129,874	2,218	79,565	76,590	77,347	74,372	3,844	70,527	2,975	3.7	3.8	59.6	57.3
1968	132,028	2,253	80,990	78,173	78,737	75,920	3,817	72,103	2,817	3.5	3.6	59.6	57.5
1969	134,335	2,238	82,972	80,140	80,734	77,902	3,606	74,296	2,832	3.4	3.5	60.1	58.0
1970	137,085	2,118	84,889	80,796	82,771	78,678	3,463	75,215	4,093	4.8	4.9	60.4	57.4
1971	140,216	1,973	86,355	81,340	84,382	79,367	3,394	75,972	5,016	5.8	5.9	60.2	56.6
1972 [6]	144,126	1,813	88,847	83,966	87,034	82,153	3,484	78,669	4,882	5.5	5.6	60.4	57.0
1973 [6]	147,096	1,774	91,203	86,838	89,429	85,064	3,470	81,594	4,365	4.8	4.9	60.8	57.8
1974	150,120	1,721	93,670	88,515	91,949	86,794	3,515	83,279	5,156	5.5	5.6	61.3	57.8
1975	153,153	1,678	95,453	87,524	93,775	85,846	3,408	82,438	7,929	8.3	8.5	61.2	56.1
1976	156,150	1,668	97,826	90,420	96,158	88,752	3,331	85,421	7,406	7.6	7.7	61.6	56.8
1977	159,033	1,656	100,665	93,673	99,009	92,017	3,283	88,734	6,991	6.9	7.1	62.3	57.9
1978 [6]	161,910	1,631	103,882	97,679	102,251	96,048	3,387	92,661	6,202	6.0	6.1	63.2	59.3
1979	164,863	1,597	106,559	100,421	104,962	98,824	3,347	95,477	6,137	5.8	5.8	63.7	59.9
1980	167,745	1,604	108,544	100,907	106,940	99,303	3,364	95,938	7,637	7.0	7.1	63.8	59.2
1981	170,130	1,645	110,315	102,042	108,670	100,397	3,368	97,030	8,273	7.5	7.6	63.9	59.0
1982	172,271	1,668	111,872	101,194	110,204	99,526	3,401	96,125	10,678	9.5	9.7	64.0	57.8
1983	174,215	1,676	113,226	102,510	111,550	100,834	3,383	97,450	10,717	9.5	9.6	64.0	57.9
1984	176,383	1,697	115,241	106,702	113,544	105,005	3,321	101,685	8,539	7.4	7.5	64.4	59.5
1985	178,206	1,706	117,167	108,856	115,461	107,150	3,179	103,971	8,312	7.1	7.2	64.8	60.1
1986 [6]	180,587	1,706	119,540	111,303	117,834	109,597	3,163	106,434	8,237	6.9	7.0	65.3	60.7
1987	182,753	1,737	121,602	114,177	119,865	112,440	3,208	109,232	7,425	6.1	6.2	65.6	61.5
1984: Jan	175,533	1,686	113,899	104,883	112,213	103,197	3,296	99,901	9,016	7.9	8.0	63.9	58.8
Feb	175,679	1,684	114,314	105,511	112,630	103,827	3,354	100,473	8,803	7.7	7.8	64.1	59.1
Mar	175,824	1,686	114,397	105,659	112,711	103,973	3,234	100,739	8,738	7.6	7.8	64.1	59.1
Apr	175,969	1,693	114,822	106,058	113,129	104,365	3,309	101,056	8,764	7.6	7.7	64.3	59.3
May	176,123	1,690	115,310	106,849	113,620	105,159	3,319	101,840	8,461	7.3	7.4	64.5	59.7
June	176,284	1,690	115,521	107,300	113,831	105,610	3,377	102,233	8,221	7.1	7.2	64.6	59.9
July	176,440	1,698	115,645	107,127	113,947	105,429	3,340	102,089	8,518	7.4	7.5	64.6	59.8
Aug	176,583	1,712	115,404	106,879	113,692	105,167	3,295	101,872	8,525	7.4	7.5	64.4	59.6
Sept	176,763	1,720	115,556	107,198	113,836	105,478	3,388	102,090	8,358	7.2	7.3	64.4	59.7
Oct	176,956	1,705	115,720	107,339	114,015	105,634	3,195	102,439	8,381	7.2	7.4	64.4	59.7
Nov	177,135	1,699	115,884	107,684	114,185	105,985	3,400	102,585	8,200	7.1	7.2	64.5	59.8
Dec	177,306	1,698	116,268	107,910	114,570	106,212	3,387	102,825	8,358	7.2	7.3	64.6	59.9

See next page for continuation of table.

TABLE B–32.—*Population and the labor force, 1929–88—Continued*

[Monthly data seasonally adjusted, except as noted]

Year or month	Civilian noninstitutional population [1]	Resident Armed Forces [1]	Labor force including resident Armed Forces	Employment including resident Armed Forces	Civilian labor force					Unemployment rate		Civilian labor force participation rate [4]	Civilian employment/population ratio [5]
					Total	Employment			Unemployment	All workers [2]	Civilian workers [3]		
						Total	Agricultural	Nonagricultural					
	Thousands of persons 16 years of age and over									Percent			
1985: Jan	177,384	1,697	116,457	107,993	114,760	106,296	3,331	102,965	8,464	7.3	7.4	64.7	59.9
Feb	177,516	1,703	116,606	108,276	114,903	106,573	3,325	103,248	8,330	7.1	7.2	64.7	60.0
Mar	177,667	1,701	117,012	108,691	115,311	106,990	3,260	103,730	8,321	7.1	7.2	64.9	60.2
Apr	177,799	1,702	117,040	108,644	115,338	106,942	3,319	103,623	8,396	7.2	7.3	64.9	60.1
May	177,944	1,705	116,916	108,612	115,211	106,907	3,238	103,669	8,304	7.1	7.2	64.7	60.1
June	178,096	1,702	116,723	108,309	115,021	106,607	3,147	103,460	8,414	7.2	7.3	64.6	59.9
July	178,263	1,704	116,993	108,513	115,289	106,809	3,134	103,675	8,480	7.2	7.4	64.7	59.9
Aug	178,405	1,726	117,037	108,851	115,311	107,125	3,141	103,984	8,186	7.0	7.1	64.6	60.0
Sept	178,572	1,732	117,613	109,367	115,881	107,635	3,059	104,576	8,246	7.0	7.1	64.9	60.3
Oct	178,770	1,700	117,787	109,488	116,087	107,788	3,059	104,729	8,299	7.0	7.1	64.9	60.3
Nov	178,940	1,702	117,857	109,702	116,155	108,000	3,073	104,927	8,155	6.9	7.0	64.9	60.4
Dec	179,112	1,698	118,017	109,861	116,319	108,163	3,147	105,016	8,156	6.9	7.0	64.9	60.4
1986: Jan [6]	179,670	1,691	118,442	110,595	116,751	108,904	3,307	105,597	7,847	6.6	6.7	65.0	60.6
Feb	179,821	1,691	118,642	110,215	116,951	108,524	3,097	105,427	8,427	7.1	7.2	65.0	60.4
Mar	179,985	1,693	118,876	110,546	117,183	108,853	3,213	105,640	8,330	7.0	7.1	65.1	60.5
Apr	180,148	1,695	119,029	110,656	117,334	108,961	3,168	105,793	8,373	7.0	7.1	65.1	60.5
May	180,311	1,687	119,168	110,724	117,481	109,037	3,099	105,938	8,444	7.1	7.2	65.2	60.5
June	180,503	1,680	119,792	111,351	118,112	109,671	3,176	106,495	8,441	7.0	7.1	65.4	60.8
July	180,682	1,672	119,787	111,509	118,115	109,837	3,127	106,710	8,278	6.9	7.0	65.4	60.8
Aug	180,828	1,697	119,847	111,732	118,150	110,035	3,106	106,929	8,115	6.8	6.9	65.3	60.9
Sept	180,997	1,716	120,061	111,763	118,345	110,047	3,164	106,883	8,298	6.9	7.0	65.4	60.8
Oct	181,186	1,749	120,173	111,943	118,424	110,194	3,142	107,052	8,230	6.8	6.9	65.4	60.8
Nov	181,363	1,751	120,422	112,208	118,671	110,457	3,233	107,224	8,214	6.8	6.9	65.4	60.9
Dec	181,547	1,750	120,326	112,407	118,576	110,657	3,153	107,504	7,919	6.6	6.7	65.3	61.0
1987: Jan	181,827	1,748	120,726	112,762	118,978	111,014	3,174	107,840	7,964	6.6	6.7	65.4	61.1
Feb	181,998	1,740	120,970	113,084	119,230	111,344	3,225	108,119	7,886	6.5	6.6	65.5	61.2
Mar	182,179	1,736	120,982	113,191	119,246	111,455	3,237	108,218	7,791	6.4	6.5	65.5	61.2
Apr	182,344	1,735	121,098	113,541	119,363	111,806	3,250	108,556	7,557	6.2	6.3	65.5	61.3
May	182,533	1,726	121,633	114,060	119,907	112,334	3,269	109,065	7,573	6.2	6.3	65.7	61.5
June	182,703	1,718	121,326	114,018	119,608	112,300	3,192	109,108	7,308	6.0	6.1	65.5	61.5
July	182,885	1,720	121,610	114,359	119,890	112,639	3,212	109,427	7,251	6.0	6.0	65.6	61.6
Aug	183,002	1,736	122,042	114,786	120,306	113,050	3,143	109,907	7,256	5.9	6.0	65.7	61.8
Sept	183,161	1,743	121,706	114 515	119,963	112,872	3,184	109,688	7,091	5.8	5.9	65.5	61.6
Oct	183,311	1,741	122,128	114,..51	120,387	113,210	3,249	109,961	7,177	5.9	6.0	65.7	61.8
Nov	183,470	1,755	122,349	115,259	120,594	113,504	3,172	110,332	7,090	5.8	5.9	65.7	61.9
Dec	183,620	1,750	122,472	115,494	120,722	113,744	3,215	110,529	6,978	5.7	5.8	65.7	61.9
1988: Jan	183,822	1,749	122,924	115,878	121,175	114,129	3,293	110,836	7,046	5.7	5.8	65.9	62.1
Feb	183,969	1,736	123,084	116,145	121,348	114,409	3,228	111,182	6,938	5.6	5.7	66.0	62.2
Mar	184,111	1,736	122,639	115,839	120,903	114,103	3,204	110,899	6,801	5.5	5.6	65.7	62.0
Apr	184,232	1,732	123,055	116,445	121,323	114,713	3,228	111,485	6,610	5.4	5.4	65.9	62.3
May	184,374	1,714	122,692	115,909	120,978	114,195	3,035	111,160	6,783	5.5	5.6	65.6	61.9
June	184,562	1,685	123,157	116,703	121,472	115,018	3,085	111,933	6,455	5.2	5.3	65.8	62.3
July	184,729	1,673	123,357	116,732	121,684	115,059	3,046	112,014	6,625	5.4	5.4	65.9	62.3
Aug	184,830	1,692	123,723	116,872	122,031	115,180	3,151	112,029	6,851	5.5	5.6	66.0	62.3
Sept	184,962	1,704	123,628	117,032	121,924	115,328	3,169	112,158	6,596	5.3	5.4	65.9	62.4
Oct	185,114	1,687	123,699	117,208	122,012	115,521	3,266	112,255	6,491	5.2	5.3	65.9	62.4
Nov	185,244	1,705	124,277	117,681	122,572	115,976	3,276	112,700	6,595	5.3	5.4	66.2	62.6

[1] Not seasonally adjusted.
[2] Unemployed as percent of labor force including resident Armed Forces.
[3] Unemployed as percent of civilian labor force.
[4] Civilian labor force as percent of civilian noninstitutional population.
[5] Civilian employment as percent of civilian noninstitutional population.
[6] Not strictly comparable with earlier data due to population adjustments as follows: Beginning 1953, introduction of 1950 census data added about 600,000 to population and 350,000 to labor force, total employment, and agricultural employment. Beginning 1960, inclusion of Alaska and Hawaii added about 500,000 to population, 300,000 to labor force, and 240,000 to nonagricultural employment. Beginning 1962, introduction of 1960 census data reduced population by about 50,000 and labor force and employment by 200,000. Beginning 1972, introduction of 1970 census data added about 800,000 to civilian noninstitutional population and 333,000 to labor force and employment. A subsequent adjustment based on 1970 census in March 1973 added 60,000 to labor force and to employment. Beginning 1978, changes in sampling and estimation procedures introduced into the household survey added about 250,000 to labor force and to employment. Unemployment levels and rates were not significantly affected. Beginning 1986, the introduction of revised population controls added about 400,000 to the civilian population and labor force and 350,000 to civilian employment. Unemployment levels and rates were not significantly affected.

Note.—Labor force data in Tables B–32 through B–41 are based on household interviews and relate to the calendar week including the 12th of the month. For definitions of terms, area samples used, historical comparability of the data, comparability with other series, etc., see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–33.—*Civilian employment and unemployment by sex and age, 1947–88*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	Civilian employment							Unemployment						
	Total	Males			Females			Total	Males			Females		
		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
1947	57,038	40,995	2,218	38,776	16,045	1,691	14,354	2,311	1,692	270	1,422	619	144	475
1948	58,343	41,725	2,344	39,382	16,617	1,682	14,936	2,276	1,559	256	1,305	717	153	564
1949	57,651	40,925	2,124	38,803	16,723	1,588	15,137	3,637	2,572	353	2,219	1,065	223	841
1950	58,918	41,578	2,186	39,394	17,340	1,517	15,824	3,288	2,239	318	1,922	1,049	195	854
1951	59,961	41,780	2,156	39,626	18,181	1,611	16,570	2,055	1,221	191	1,029	834	145	689
1952	60,250	41,682	2,107	39,578	18,568	1,612	16,958	1,883	1,185	205	980	698	140	559
1953[1]	61,179	42,430	2,136	40,296	18,749	1,584	17,164	1,834	1,202	184	1,019	632	123	510
1954	60,109	41,619	1,985	39,634	18,490	1,490	17,000	3,532	2,344	310	2,035	1,188	191	997
1955	62,170	42,621	2,095	40,526	19,551	1,547	18,002	2,852	1,854	274	1,580	998	176	823
1956	63,799	43,379	2,164	41,216	20,419	1,654	18,767	2,750	1,711	269	1,442	1,039	209	832
1957	64,071	43,357	2,115	41,239	20,714	1,663	19,052	2,859	1,841	300	1,541	1,018	197	821
1958	63,036	42,423	2,012	40,411	20,613	1,570	19,043	4,602	3,098	416	2,681	1,504	262	1,242
1959	64,630	43,466	2,198	41,267	21,164	1,640	19,524	3,740	2,420	398	2,022	1,320	256	1,063
1960[1]	65,778	43,904	2,361	41,543	21,874	1,768	20,105	3,852	2,486	426	2,060	1,366	286	1,080
1961	65,746	43,656	2,315	41,342	22,090	1,793	20,296	4,714	2,997	479	2,518	1,717	349	1,368
1962[1]	66,702	44,177	2,362	41,815	22,525	1,833	20,693	3,911	2,423	408	2,016	1,488	313	1,175
1963	67,762	44,657	2,406	42,251	23,105	1,849	21,257	4,070	2,472	501	1,971	1,598	383	1,216
1964	69,305	45,474	2,587	42,886	23,831	1,929	21,903	3,786	2,205	487	1,718	1,581	385	1,195
1965	71,088	46,340	2,918	43,422	24,748	2,118	22,630	3,366	1,914	479	1,435	1,452	395	1,056
1966	72,895	46,919	3,253	43,668	25,976	2,468	23,510	2,875	1,551	432	1,120	1,324	405	921
1967	74,372	47,479	3,186	44,294	26,893	2,496	24,397	2,975	1,508	448	1,060	1,468	391	1,078
1968	75,920	48,114	3,255	44,859	27,807	2,526	25,281	2,817	1,419	426	993	1,397	412	985
1969	77,902	48,818	3,430	45,388	29,084	2,687	26,397	2,832	1,403	440	963	1,429	413	1,015
1970	78,678	48,990	3,409	45,581	29,688	2,735	26,952	4,093	2,238	599	1,638	1,855	506	1,349
1971	79,367	49,390	3,478	45,912	29,976	2,730	27,246	5,016	2,789	693	2,097	2,227	568	1,658
1972[1]	82,153	50,896	3,765	47,130	31,257	2,980	28,276	4,882	2,659	711	1,948	2,222	598	1,625
1973[1]	85,064	52,349	4,039	48,310	32,715	3,231	29,484	4,365	2,275	653	1,624	2,089	583	1,507
1974	86,794	53,024	4,103	48,922	33,769	3,345	30,424	5,156	2,714	757	1,957	2,441	665	1,777
1975	85,846	51,857	3,839	48,018	33,989	3,263	30,726	7,929	4,442	966	3,476	3,486	802	2,684
1976	88,752	53,138	3,947	49,190	35,615	3,389	32,226	7,406	4,036	939	3,098	3,369	780	2,588
1977	92,017	54,728	4,174	50,555	37,289	3,514	33,775	6,991	3,667	874	2,794	3,324	789	2,535
1978[1]	96,048	56,479	4,336	52,143	39,569	3,734	35,836	6,202	3,142	813	2,328	3,061	769	2,292
1979	98,824	57,607	4,300	53,308	41,217	3,783	37,434	6,137	3,120	811	2,308	3,018	743	2,276
1980	99,303	57,186	4,085	53,101	42,117	3,625	38,492	7,637	4,267	913	3,353	3,370	755	2,615
1981	100,397	57,397	3,815	53,582	43,000	3,411	39,590	8,273	4,577	962	3,615	3,696	800	2,895
1982	99,526	56,271	3,379	52,891	43,256	3,170	40,086	10,678	6,179	1,090	5,089	4,499	886	3,613
1983	100,834	56,787	3,300	53,487	44,047	3,043	41,004	10,717	5,260	1,003	5,257	4,457	825	3,632
1984	105,005	59,091	3,322	55,769	45,915	3,122	42,793	8,539	4,744	812	3,932	3,794	687	3,107
1985	107,150	59,891	3,328	56,562	47,259	3,105	44,154	8,312	4,521	806	3,715	3,791	661	3,129
1986[1]	109,597	60,892	3,323	57,569	48,706	3,149	45,556	8,237	4,530	779	3,751	3,707	675	3,032
1987	112,440	62,107	3,381	58,726	50,334	3,260	47,074	7,425	4,101	732	3,369	3,324	616	2,709
1987: Jan	111,014	61,562	3,342	58,220	49,452	3,162	46,290	7,964	4,449	758	3,691	3,515	638	2,877
Feb	111,344	61,697	3,373	58,324	49,647	3,162	46,485	7,886	4,374	768	3,606	3,512	654	2,858
Mar	111,455	61,688	3,308	58,380	49,767	3,185	46,582	7,791	4,327	774	3,553	3,464	632	2,832
Apr	111,806	61,815	3,299	58,516	49,991	3,230	46,761	7,557	4,214	760	3,454	3,343	610	2,733
May	112,334	61,977	3,304	58,673	50,357	3,329	47,028	7,573	4,259	803	3,456	3,314	614	2,700
June	112,300	61,984	3,352	58,632	50,316	3,228	47,088	7,308	4,080	658	3,422	3,228	594	2,634
July	112,639	62,150	3,367	58,783	50,489	3,283	47,206	7,251	3,960	637	3,323	3,291	611	2,680
Aug	113,050	62,341	3,516	58,825	50,709	3,401	47,308	7,256	4,021	763	3,258	3,235	574	2,661
Sept	112,872	62,368	3,401	58,967	50,504	3,253	47,251	7,091	3,827	709	3,118	3,264	593	2,671
Oct	113,210	62,468	3,431	59,037	50,742	3,262	47,480	7,177	3,899	725	3,174	3,278	663	2,615
Nov	113,504	62,581	3,417	59,164	50,923	3,289	47,634	7,090	3,845	710	3,135	3,245	625	2,620
Dec	113,744	62,656	3,471	59,185	51,088	3,338	47,750	6,978	3,785	722	3,063	3,193	582	2,611
1988: Jan	114,129	62,808	3,521	59,287	51,321	3,344	47,977	7,046	3,847	693	3,154	3,200	619	2,581
Feb	114,409	63,059	3,434	59,625	51,350	3,345	48,005	6,938	3,707	636	3,071	3,231	596	2,635
Mar	114,103	62,759	3,352	59,407	51,344	3,212	48,132	6,801	3,816	727	3,089	2,985	574	2,411
Apr	114,713	63,323	3,440	59,883	51,390	3,220	48,170	6,610	3,553	644	2,909	3,057	615	2,442
May	114,195	63,030	3,439	59,590	51,166	3,206	47,960	6,783	3,736	664	3,072	3,047	566	2,481
June	115,018	63,411	3,614	59,797	51,607	3,438	48,169	6,455	3,495	625	2,870	2,960	487	2,473
July	115,059	63,490	3,537	59,954	51,569	3,370	48,199	6,625	3,519	704	2,815	3,106	530	2,576
Aug	115,180	63,425	3,591	59,834	51,755	3,288	48,466	6,851	3,768	678	3,090	3,083	615	2,468
Sept	115,328	63,512	3,489	60,024	51,815	3,364	48,452	6,596	3,555	698	2,857	3,041	580	2,461
Oct	115,521	63,417	3,428	59,989	52,104	3,333	48,771	6,491	3,600	698	2,902	2,890	489	2,401
Nov	115,976	63,537	3,556	59,981	52,439	3,286	49,153	6,595	3,642	604	3,038	2,954	496	2,458

[1] See footnote 6, Table B–32.

Note.—See Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–34.—*Civilian employment by demographic characteristic, 1954–88*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19
1954	60,109	53,957	37,846	16,111	3,078	6,152	3,773	2,379	396				
1955	62,170	55,833	38,719	17,114	3,225	6,341	3,904	2,437	418				
1956	63,799	57,269	39,368	17,901	3,389	6,534	4,013	2,521	430				
1957	64,071	57,465	39,349	18,116	3,374	6,604	4,006	2,598	407				
1958	63,036	56,613	38,591	18,022	3,216	6,423	3,833	2,590	365				
1959	64,630	58,006	39,494	18,512	3,475	6,623	3,971	2,652	362				
1960	65,778	58,850	39,755	19,095	3,700	6,928	4,149	2,779	430				
1961	65,746	58,913	39,588	19,325	3,693	6,833	4,068	2,765	414				
1962	66,702	59,698	40,016	19,682	3,774	7,003	4,160	2,843	420				
1963	67,762	60,622	40,428	20,194	3,851	7,140	4,229	2,911	404				
1964	69,305	61,922	41,115	20,807	4,076	7,383	4,359	3,024	440				
1965	71,088	63,446	41,844	21,602	4,562	7,643	4,496	3,147	474				
1966	72,895	65,021	42,331	22,690	5,176	7,877	4,588	3,289	545				
1967	74,372	66,361	42,833	23,528	5,114	8,011	4,646	3,365	568				
1968	75,920	67,750	43,411	24,339	5,195	8,169	4,702	3,467	584				
1969	77,902	69,518	44,048	25,470	5,508	8,384	4,770	3,614	609				
1970	78,678	70,217	44,178	26,039	5,571	8,464	4,813	3,650	574				
1971	79,367	70,878	44,595	26,283	5,670	8,488	4,796	3,692	538				
1972	82,153	73,370	45,944	27,426	6,173	8,783	4,952	3,832	573	7,802	4,368	3,433	508
1973	85,064	75,708	47,085	28,623	6,623	9,356	5,265	4,092	647	8,128	4,527	3,601	570
1974	86,794	77,184	47,674	29,511	6,796	9,610	5,352	4,258	652	8,203	4,527	3,677	554
1975	85,846	76,411	46,897	29,714	6,487	9,435	5,161	4,275	615	7,894	4,275	3,618	507
1976	88,752	78,853	47,775	31,078	6,724	9,899	5,363	4,536	611	8,227	4,404	3,823	508
1977	92,017	81,700	49,150	32,550	7,068	10,317	5,579	4,739	619	8,540	4,565	3,975	508
1978	96,048	84,936	50,544	34,392	7,367	11,112	5,936	5,177	703	9,102	4,796	4,307	571
1979	98,824	87,299	51,452	35,807	7,356	11,565	6,156	5,409	727	9,359	4,923	4,436	579
1980	99,303	87,715	51,127	36,587	7,021	11,588	6,059	5,529	689	9,313	4,798	4,515	547
1981	100,397	88,709	51,315	37,394	6,588	11,688	6,083	5,606	637	9,355	4,794	4,561	505
1982	99,526	87,903	50,287	37,615	5,984	11,624	5,983	5,641	565	9,189	4,637	4,552	428
1983	100,834	88,893	50,621	38,272	5,799	11,941	6,166	5,775	543	9,375	4,753	4,622	416
1984	105,005	92,120	52,462	39,659	5,836	12,885	6,629	6,256	607	10,119	5,124	4,995	474
1985	107,150	93,736	53,046	40,690	5,768	13,414	6,845	6,569	666	10,501	5,270	5,231	532
1986	109,597	95,660	53,785	41,876	5,792	13,937	7,107	6,830	681	10,814	5,428	5,386	536
1987	112,440	97,789	54,647	43,142	5,898	14,652	7,459	7,192	742	11,309	5,661	5,648	587
1987: Jan	111,014	96,749	54,273	42,476	5,840	14,295	7,321	6,974	680	10,995	5,553	5,442	517
Feb	111,344	97,001	54,403	42,598	5,880	14,320	7,304	7,016	695	11,086	5,565	5,521	554
Mar	111,455	97,074	54,323	42,751	5,813	14,392	7,353	7,039	683	11,072	5,579	5,493	544
Apr	111,806	97,338	54,403	42,935	5,846	14,467	7,408	7,059	679	11,114	5,600	5,514	538
May	112,334	97,829	54,591	43,238	5,935	14,475	7,357	7,118	679	11,129	5,570	5,559	541
June	112,300	97,698	54,553	43,145	5,842	14,582	7,410	7,172	731	11,238	5,614	5,624	570
July	112,639	97,917	54,651	43,266	5,904	14,725	7,485	7,240	736	11,381	5,689	5,692	580
Aug	113,050	98,181	54,779	43,402	6,017	14,804	7,518	7,286	822	11,513	5,750	5,763	676
Sept	112,872	98,069	54,801	43,268	5,857	14,778	7,559	7,219	795	11,421	5,738	5,683	643
Oct	113,210	98,317	54,895	43,422	5,915	14,946	7,601	7,345	797	11,556	5,753	5,803	630
Nov	113,504	98,492	54,976	43,516	5,917	15,017	7,613	7,404	805	11,589	5,763	5,826	622
Dec	113,744	98,779	55,111	43,668	6,021	15,008	7,582	7,426	794	11,606	5,754	5,851	631
1988: Jan	114,129	99,044	55,181	43,863	6,095	15,076	7,649	7,426	757	11,608	5,793	5,815	561
Feb	114,409	99,474	55,510	43,964	6,100	14,884	7,549	7,335	710	11,504	5,721	5,783	537
Mar	114,103	99,274	55,246	44,027	5,845	14,853	7,523	7,330	712	11,420	5,676	5,744	526
Apr	114,713	99,751	55,570	44,181	5,916	14,939	7,737	7,202	735	11,482	5,823	5,659	564
May	114,195	99,297	55,320	43,977	5,879	14,818	7,654	7,164	744	11,452	5,782	5,670	580
June	115,018	99,932	55,666	44,266	6,258	15,017	7,701	7,316	787	11,489	5,788	5,701	610
July	115,059	99,725	55,684	44,040	6,081	15,319	7,796	7,523	820	11,774	5,835	5,939	632
Aug	115,180	99,901	55,609	44,292	6,038	15,299	7,829	7,470	785	11,764	5,893	5,871	626
Sept	115,328	100,019	55,657	44,362	6,054	15,301	7,827	7,473	800	11,771	5,907	5,865	627
Oct	115,521	100,144	55,628	44,516	5,977	15,431	7,907	7,524	801	11,829	5,909	5,919	622
Nov	115,976	100,578	55,747	44,831	6,066	15,377	7,777	7,600	793	11,850	5,875	5,975	626

Note.—See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–35.—*Unemployment by demographic characteristic, 1954–88*

[Thousands of persons 16 years of age and over; monthly data seasonally adjusted]

Year or month	All civilian workers	White				Black and other				Black			
		Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19	Total	Males	Females	Both sexes 16–19
1954	3,532	2,859	1,913	946	423	673	431	242	79				
1955	2,852	2,252	1,478	774	373	601	376	225	77				
1956	2,750	2,159	1,366	793	382	591	345	246	95				
1957	2,859	2,289	1,477	812	401	570	364	206	96				
1958	4,602	3,680	2,489	1,191	541	923	610	313	138				
1959	3,740	2,946	1,903	1,043	525	793	517	276	128				
1960	3,852	3,065	1,988	1,077	575	788	498	290	138				
1961	4,714	3,743	2,398	1,345	669	971	599	372	159				
1962	3,911	3,052	1,915	1,137	580	861	509	352	142				
1963	4,070	3,208	1,976	1,232	708	863	496	367	176				
1964	3,786	2,999	1,779	1,220	708	787	426	361	165				
1965	3,366	2,691	1,556	1,135	705	678	360	318	171				
1966	2,875	2,255	1,241	1,014	651	622	310	312	186				
1967	2,975	2,338	1,208	1,130	635	638	300	338	203				
1968	2,817	2,226	1,142	1,084	644	590	277	313	194				
1969	2,832	2,260	1,137	1,123	660	571	267	304	193				
1970	4,093	3,339	1,857	1,482	871	754	380	374	235				
1971	5,016	4,085	2,309	1,777	1,011	930	481	450	249				
1972	4,882	3,906	2,173	1,733	1,021	977	486	491	288	906	448	458	279
1973	4,365	3,442	1,836	1,606	955	924	440	484	280	846	395	451	262
1974	5,156	4,097	2,169	1,927	1,104	1,058	544	514	318	965	494	470	297
1975	7,929	6,421	3,627	2,794	1,413	1,507	815	692	355	1,369	741	629	330
1976	7,406	5,914	3,258	2,656	1,364	1,492	779	713	355	1,334	698	637	330
1977	6,991	5,441	2,883	2,558	1,284	1,550	784	766	379	1,393	698	695	354
1978	6,202	4,698	2,411	2,287	1,189	1,505	731	774	394	1,330	641	690	360
1979	6,137	4,664	2,405	2,260	1,193	1,473	714	759	362	1,319	636	683	333
1980	7,637	5,884	3,345	2,540	1,291	1,752	922	830	377	1,553	815	738	343
1981	8,273	6,343	3,580	2,762	1,374	1,930	997	933	388	1,731	891	840	357
1982	10,678	8,241	4,846	3,395	1,534	2,437	1,334	1,104	443	2,142	1,167	975	396
1983	10,717	8,128	4,859	3,270	1,387	2,588	1,401	1,187	441	2,272	1,213	1,059	392
1984	8,539	6,372	3,600	2,772	1,116	2,167	1,144	1,022	384	1,914	1,003	911	353
1985	8,312	6,191	3,426	2,765	1,074	2,121	1,095	1,026	394	1,864	951	913	357
1986	8,237	6,140	3,433	2,708	1,070	2,097	1,097	999	383	1,840	946	894	347
1987	7,425	5,501	3,132	2,369	995	1,924	969	955	353	1,684	826	858	312
1987: Jan	7,964	5,920	3,391	2,529	1,038	2,046	1,052	994	368	1,812	895	917	333
Feb	7,886	5,824	3,332	2,492	1,044	2,061	1,031	1,030	383	1,808	885	923	339
Mar	7,791	5,762	3,321	2,441	1,049	2,042	1,007	1,035	356	1,781	856	925	320
Apr	7,557	5,634	3,238	2,396	1,018	1,935	993	942	354	1,664	827	837	317
May	7,573	5,587	3,219	2,368	1,061	1,997	1,048	949	361	1,760	911	849	324
June	7,308	5,452	3,149	2,303	944	1,892	963	929	322	1,654	819	835	286
July	7,251	5,331	2,992	2,339	905	1,886	960	926	314	1,658	823	835	282
Aug	7,256	5,335	3,016	2,319	984	1,893	973	920	350	1,637	821	816	298
Sept	7,091	5,288	2,945	2,343	979	1,816	893	923	322	1,607	757	850	286
Oct	7,177	5,352	3,048	2,304	1,000	1,809	860	949	372	1,596	747	849	322
Nov	7,090	5,239	2,935	2,304	969	1,852	911	941	374	1,604	773	831	319
Dec	6,978	5,128	2,858	2,270	949	1,845	913	932	359	1,610	776	834	317
1988: Jan	7,046	5,208	2,928	2,279	992	1,850	916	934	334	1,614	778	836	302
Feb	6,938	5,056	2,693	2,362	865	1,895	1,014	881	375	1,663	874	789	333
Mar	6,801	4,897	2,838	2,059	962	1,926	989	937	337	1,678	857	821	308
Apr	6,610	4,824	2,677	2,146	973	1,795	888	907	286	1,597	771	825	258
May	6,783	4,913	2,784	2,128	885	1,879	961	918	346	1,617	824	793	314
June	6,455	4,759	2,636	2,123	850	1,718	879	840	274	1,500	750	750	242
July	6,625	4,878	2,657	2,221	902	1,701	837	865	305	1,519	728	792	285
Aug	6,851	5,106	2,866	2,240	967	1,694	857	837	323	1,498	743	755	300
Sept	6,596	5,024	2,795	2,228	969	1,592	781	811	311	1,419	693	726	294
Oct	6,491	4,858	2,787	2,071	889	1,642	843	800	290	1,461	750	711	272
Nov	6,595	4,898	2,786	2,111	802	1,715	875	840	306	1,497	762	736	288

Note.—See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–36.—*Labor force participation rate and employment/population ratio, 1948–88*

[Percent; monthly data seasonally adjusted]

Year or month	Labor force participation rate								Employment/population ratio							
	Total [1]	Civilian [2]							Total [3]	Civilian [4]						
		Total	Males	Females	Both sexes 16–19 years	White	Black and other	Black		Total	Males	Females	Both sexes 16–19 years	White	Black and other	Black
1948	.....	58.8	86.6	32.7	52.5	.....	.....	.....	.....	56.6	83.5	31.3	47.7	.....	.....	
1949	.....	58.9	86.4	33.1	52.2	.....	.....	.....	.....	55.4	81.3	31.2	45.2	.....	.....	
1950	59.7	59.2	86.4	33.9	51.8	.....	.....	.....	56.6	56.1	82.0	32.0	45.5	.....	.....	.....
1951	60.1	59.2	86.3	34.6	52.2	.....	.....	.....	58.2	57.3	84.0	33.1	47.9	.....	.....	.....
1952	60.0	59.0	86.3	34.7	51.3	.....	.....	.....	58.2	57.3	83.9	33.4	46.9	.....	.....	.....
1953	59.7	58.9	86.0	34.4	50.2	.....	.....	.....	58.0	57.1	83.6	33.3	46.4	.....	.....	.....
1954	59.6	58.8	85.5	34.6	48.3	58.2	54.0	.....	56.4	55.5	81.0	32.5	42.3	55.2	58.0	.....
1955	60.0	59.3	85.4	35.7	48.9	58.7	54.2	.....	57.5	56.7	81.8	34.0	43.5	56.5	58.7	.....
1956	60.7	60.0	85.5	36.9	50.9	59.4	54.9	.....	58.2	57.5	82.3	35.1	45.3	57.3	59.5	.....
1957	60.3	59.6	84.8	36.9	49.6	59.1	54.4	.....	57.8	57.1	81.3	35.1	43.9	56.8	59.3	.....
1958	60.1	59.5	84.2	37.1	47.4	58.9	54.8	.....	56.1	55.4	78.5	34.5	39.9	55.3	56.7	.....
1959	59.9	59.3	83.7	37.1	46.7	58.7	54.3	.....	56.7	56.0	79.3	35.0	39.9	55.9	57.5	.....
1960	60.0	59.4	83.3	37.7	47.5	58.8	54.5	.....	56.8	56.1	78.9	35.5	40.5	55.9	57.9	.....
1961	60.0	59.3	82.9	38.1	46.9	58.8	54.1	.....	56.1	55.4	77.6	35.4	39.1	55.3	56.2	.....
1962	59.5	58.8	82.0	37.9	46.1	58.3	53.2	.....	56.3	55.5	77.7	35.6	39.4	55.4	56.3	.....
1963	59.3	58.7	81.4	38.3	45.2	58.2	53.0	.....	56.1	55.4	77.1	35.8	37.4	55.3	56.2	.....
1964	59.4	58.7	81.0	38.7	44.5	58.2	53.1	.....	56.4	55.7	77.3	36.3	37.3	55.5	57.0	.....
1965	59.5	58.9	80.7	39.3	45.7	58.4	52.9	.....	56.9	56.2	77.5	37.1	38.9	56.0	57.8	.....
1966	59.8	59.2	80.4	40.3	48.2	58.7	53.0	.....	57.6	56.9	77.9	38.3	42.1	56.8	58.4	.....
1967	60.2	59.6	80.4	41.1	48.4	59.2	52.8	.....	58.0	57.3	78.0	39.0	42.2	57.2	58.2	.....
1968	60.3	59.6	80.1	41.6	48.3	59.3	52.2	.....	58.2	57.5	77.8	39.6	42.2	57.4	58.0	.....
1969	60.8	60.1	79.8	42.7	49.4	59.9	52.1	.....	58.7	58.0	77.6	40.7	43.4	58.0	58.1	.....
1970	61.0	60.4	79.7	43.3	49.9	60.2	51.8	.....	58.0	57.4	76.2	40.8	42.3	57.5	56.8	.....
1971	60.7	60.2	79.1	43.4	49.7	60.1	50.9	.....	57.2	56.6	74.9	40.4	41.3	56.8	54.9	.....
1972	60.9	60.4	78.9	43.9	51.9	60.4	50.2	50.9	57.5	57.0	75.0	41.0	43.5	57.4	54.1	53.7
1973	61.3	60.8	78.8	44.7	53.7	60.8	50.5	50.2	58.3	57.8	75.5	42.0	45.9	58.2	55.0	54.5
1974	61.7	61.3	78.7	45.7	54.8	61.4	50.3	50.8	58.3	57.8	74.9	42.6	46.0	58.3	54.3	53.5
1975	61.6	61.2	77.9	46.3	54.0	61.5	49.6	48.8	56.5	56.1	71.7	42.0	43.3	56.7	51.4	50.1
1976	62.0	61.6	77.5	47.3	54.5	61.8	49.8	49.0	57.3	56.8	72.0	43.2	44.2	57.5	52.0	50.8
1977	62.6	62.3	77.7	48.4	56.0	62.5	50.4	49.8	58.3	57.9	72.8	44.5	46.1	58.6	52.5	51.4
1978	63.5	63.2	77.9	50.0	57.8	63.3	52.2	51.5	59.7	59.3	73.8	46.4	48.3	60.0	54.7	53.6
1979	64.0	63.7	77.8	50.9	57.9	63.9	52.2	51.4	60.3	59.9	73.8	47.5	48.5	60.6	55.2	53.8
1980	64.1	63.8	77.4	51.5	56.7	64.1	51.7	51.0	59.6	59.2	72.0	47.7	46.6	60.0	53.6	52.3
1981	64.2	63.9	77.0	52.1	55.4	64.3	51.3	50.8	59.4	59.0	71.3	48.0	44.6	60.0	52.6	51.3
1982	64.3	64.0	76.6	52.6	54.1	64.3	51.6	51.0	58.2	57.8	69.0	47.7	41.5	58.8	50.9	49.4
1983	64.4	64.0	76.4	52.9	53.5	64.3	52.1	51.5	58.3	57.9	68.8	48.0	41.5	58.9	51.0	49.5
1984	64.7	64.4	76.4	53.6	53.9	64.6	52.6	52.2	59.9	59.5	70.7	49.5	43.7	60.5	53.6	52.3
1985	65.1	64.8	76.3	54.5	54.5	65.0	53.2	52.9	60.5	60.1	70.9	50.4	44.4	61.0	54.7	53.4
1986	65.6	65.3	76.3	55.3	54.7	65.5	53.7	53.3	61.1	60.7	71.0	51.4	44.6	61.5	55.4	54.1
1987	65.9	65.6	76.2	56.0	54.7	65.8	54.3	53.8	61.9	61.5	71.5	52.5	45.5	62.3	56.8	55.6
1987: Jan	65.8	65.4	76.4	55.5	54.3	65.7	54.0	53.4	61.4	61.1	71.2	51.8	44.7	61.9	56.0	54.5
Feb	65.8	65.5	76.4	55.7	54.7	65.7	54.1	53.8	61.5	61.2	71.3	52.0	44.9	62.0	56.0	54.8
Mar	65.8	65.5	76.2	55.7	54.3	65.7	54.2	53.5	61.5	61.2	71.2	52.1	44.6	62.0	56.2	54.7
Apr	65.8	65.5	76.2	55.8	54.2	65.7	53.9	53.0	61.7	61.3	71.3	52.3	44.8	62.1	56.4	54.8
May	66.0	65.7	76.3	56.1	55.2	65.9	54.0	53.5	61.9	61.5	71.4	52.6	45.4	62.4	56.3	54.8
June	65.8	65.5	76.0	55.9	53.6	65.7	53.9	53.4	61.8	61.5	71.3	52.5	45.0	62.3	56.6	55.2
July	65.9	65.6	76.0	56.1	54.0	65.7	54.3	54.0	61.9	61.6	71.5	52.6	45.5	62.3	57.0	55.9
Aug	66.1	65.7	76.3	56.2	56.3	65.9	54.5	54.5	62.1	61.8	71.6	52.8	47.2	62.5	57.2	56.4
Sept	65.8	65.5	76.0	56.0	54.4	65.7	54.0	53.8	62.0	61.6	71.6	52.6	45.5	62.4	57.0	55.9
Oct	66.0	65.7	76.1	56.2	55.1	65.9	54.5	54.3	62.1	61.8	71.7	52.8	45.7	62.5	57.6	56.5
Nov	66.1	65.7	76.1	56.3	54.8	65.9	54.8	54.4	62.2	61.9	71.7	52.9	45.7	62.6	57.7	56.6
Dec	66.1	65.7	76.1	56.4	55.5	66.0	54.7	54.4	62.3	61.9	71.7	53.1	46.6	62.7	57.6	56.6
1988: Jan	66.2	65.9	76.2	56.6	56.0	66.1	54.7	54.4	62.4	62.1	71.8	53.2	47.0	62.8	57.7	56.5
Feb	66.3	66.0	76.3	56.6	54.9	66.3	54.1	54.0	62.5	62.2	72.0	53.2	46.5	63.0	56.8	55.9
Mar	66.0	65.7	76.0	56.3	53.9	66.0	53.9	53.6	62.3	62.0	71.6	53.2	45.0	62.9	56.6	55.4
Apr	66.2	65.9	76.3	56.4	54.2	66.2	53.7	53.4	62.6	62.3	72.2	53.2	45.6	63.2	56.8	55.7
May	65.9	65.6	76.1	56.1	54.0	65.9	53.4	53.3	62.3	61.9	71.8	52.9	45.5	62.8	56.3	55.5
June	66.1	65.8	76.2	56.4	56.2	66.2	53.4	52.8	62.7	62.3	72.2	53.4	48.5	63.2	56.9	55.5
July	66.2	65.9	76.2	56.5	56.0	66.1	54.4	54.2	62.6	62.3	72.2	53.3	47.5	63.0	57.9	56.8
Aug	66.3	66.0	76.4	56.6	56.4	66.3	54.1	54.0	62.7	62.3	72.1	53.4	47.5	63.1	57.8	56.7
Sept	66.2	65.9	76.2	56.6	56.2	66.3	53.6	53.5	62.7	62.4	72.1	53.5	47.3	63.1	57.7	56.7
Oct	66.2	65.9	76.1	56.7	55.0	66.2	54.2	53.9	62.7	62.4	72.0	53.7	46.8	63.2	58.0	56.9
Nov	66.5	66.2	76.2	57.1	55.0	66.5	54.2	54.1	62.9	62.6	72.1	54.0	47.4	63.4	57.7	56.9

[1] Labor force including resident Armed Forces as percent of noninstitutional population including resident Armed Forces.
[2] Civilian labor force as percent of civilian noninstitutional population in group specified.
[3] Employment including resident Armed Forces as percent of noninstitutional population including resident Armed Forces.
[4] Civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.
See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

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TABLE B–37.—*Civilian labor force participation rate by demographic characteristic, 1954–88*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White						Black and other or black						
		Total	Males			Females			Total	Males			Females		
			Total	16–19 years	20 years and over	Total	16–19 years	20 years and over		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
									Black and other						
1954	58.8	58.2	85.6	57.6	87.8	33.3	40.6	32.7	64.0	85.2	61.2	87.1	46.1	31.0	47.7
1955	59.3	58.7	85.4	58.6	87.5	34.5	40.7	34.0	64.2	85.1	60.8	87.8	46.1	32.7	47.5
1956	60.0	59.4	85.6	60.4	87.6	35.7	43.1	35.1	64.9	85.1	61.5	87.8	47.3	36.3	48.4
1957	59.6	59.1	84.8	59.2	86.9	35.7	42.2	35.2	64.4	84.2	58.8	87.0	47.1	33.2	48.6
1958	59.5	58.9	84.3	56.5	86.6	35.8	40.1	35.5	64.8	84.1	57.3	87.1	48.0	31.9	49.8
1959	59.3	58.7	83.8	55.9	86.3	36.0	39.6	35.6	64.3	83.4	55.5	86.7	47.7	28.2	49.8
1960	59.4	58.8	83.4	55.9	86.0	36.5	40.3	36.2	64.5	83.0	57.6	86.2	48.2	32.9	49.9
1961	59.3	58.8	83.0	54.5	85.7	36.9	40.6	36.6	64.1	82.2	55.8	85.5	48.3	32.8	50.1
1962	58.8	58.3	82.1	53.8	84.9	36.7	39.8	36.5	63.2	80.8	53.5	84.2	48.0	33.1	49.6
1963	58.7	58.2	81.5	53.1	84.4	37.2	38.7	37.0	63.0	80.2	51.5	83.9	48.1	32.6	49.9
1964	58.7	58.2	81.1	52.7	84.2	37.5	37.8	37.5	63.1	80.1	49.9	84.1	48.6	31.7	50.7
1965	58.9	58.4	80.8	54.1	83.9	38.1	39.2	38.0	62.9	79.6	51.3	83.7	48.6	29.5	51.1
1966	59.2	58.7	80.6	55.9	83.6	39.2	42.6	38.8	63.0	79.0	51.4	83.3	49.4	33.5	51.6
1967	59.6	59.2	80.6	56.3	83.5	40.1	42.5	39.8	62.8	78.5	51.1	82.9	49.5	35.2	51.6
1968	59.6	59.3	80.4	55.9	83.2	40.7	43.0	40.4	62.2	77.7	49.7	82.2	49.3	34.8	51.4
1969	60.1	59.9	80.2	56.8	83.0	41.8	44.6	41.5	62.1	76.9	49.6	81.4	49.8	34.6	52.0
1970	60.4	60.2	80.0	57.5	82.8	42.6	45.6	42.2	61.8	76.5	47.4	81.4	49.5	34.1	51.8
1971	60.2	60.1	79.6	57.9	82.3	42.6	45.4	42.3	60.9	74.9	44.7	80.0	49.2	31.2	51.8
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	60.2	73.9	46.0	78.6	48.8	32.3	51.2
									Black						
1972	60.4	60.4	79.6	60.1	82.0	43.2	48.1	42.7	59.9	73.6	46.3	78.5	48.7	32.2	51.2
1973	60.8	60.8	79.4	62.0	81.6	44.1	50.1	43.5	60.2	73.4	45.7	78.4	49.3	34.2	51.6
1974	61.3	61.4	79.4	62.9	81.4	45.2	51.7	44.4	59.8	72.9	46.7	77.6	49.0	33.4	51.4
1975	61.2	61.5	78.7	61.9	80.7	45.9	51.5	45.3	58.8	70.9	42.6	76.0	48.8	34.2	51.1
1976	61.6	61.8	78.4	62.3	80.3	46.9	52.8	46.2	59.0	70.0	41.3	75.4	49.8	32.9	52.5
1977	62.3	62.5	78.5	64.0	80.2	48.0	54.5	47.3	59.8	70.6	43.2	75.6	50.8	32.9	53.6
1978	63.2	63.3	78.6	65.0	80.1	49.4	56.7	48.7	61.5	71.5	44.9	76.2	53.1	37.3	55.5
1979	63.7	63.9	78.6	64.8	80.1	50.5	57.4	49.8	61.4	71.3	43.6	76.3	53.1	36.8	55.4
1980	63.8	64.1	78.2	63.7	79.8	51.2	56.2	50.6	61.0	70.3	43.2	75.1	53.1	34.9	55.6
1981	63.9	64.3	77.9	62.4	79.5	51.9	55.4	51.5	60.8	70.0	41.6	74.5	53.5	34.0	56.0
1982	64.0	64.3	77.4	60.0	79.2	52.4	55.0	52.2	61.0	70.1	39.8	74.7	53.7	33.5	56.2
1983	64.0	64.3	77.1	59.4	78.9	52.7	54.5	52.5	61.5	70.6	39.9	75.2	54.2	33.0	56.8
1984	64.4	64.6	77.1	59.0	78.7	53.3	55.4	53.1	62.2	70.8	41.7	74.8	55.2	35.0	57.6
1985	64.8	65.0	77.0	58.7	78.5	54.1	55.2	54.0	62.9	70.8	44.6	74.4	56.5	37.9	58.6
1986	65.3	65.5	76.9	59.3	78.5	55.0	56.3	54.9	63.3	71.2	43.7	74.8	56.9	39.1	58.9
1987	65.6	65.8	76.8	59.0	78.4	55.7	56.5	55.6	63.8	71.1	43.6	74.7	58.0	39.6	60.0
1987: Jan	65.4	65.7	77.0	59.3	78.6	55.2	56.3	55.2	63.4	71.3	43.7	74.9	57.1	35.7	59.4
Feb	65.5	65.7	77.1	60.3	78.5	55.3	55.9	55.3	63.8	71.2	43.0	74.9	57.8	40.2	59.7
Mar	65.5	65.7	76.9	59.0	78.4	55.4	56.0	55.4	63.5	70.9	41.5	74.8	57.5	38.7	59.5
Apr	65.5	65.7	76.8	58.5	78.4	55.5	56.5	55.5	63.0	70.7	42.1	74.4	56.8	37.2	58.9
May	65.7	65.9	77.0	59.3	78.5	55.8	57.8	55.7	63.5	71.1	41.7	75.0	57.2	38.4	59.3
June	65.5	65.7	76.8	57.6	78.4	55.6	55.8	55.6	63.4	70.5	40.3	74.5	57.6	38.8	59.6
July	65.6	65.7	76.6	57.1	78.3	55.7	56.7	55.7	64.0	71.2	42.2	75.1	58.1	37.4	60.4
Aug	65.7	65.9	76.8	59.9	78.2	55.9	57.1	55.8	64.5	71.8	48.4	74.9	58.5	41.5	60.3
Sept	65.5	65.7	76.7	58.6	78.2	55.7	55.7	55.7	63.8	70.9	43.3	74.5	58.0	42.3	59.7
Oct	65.7	65.9	76.9	59.3	78.4	55.8	56.5	55.7	64.3	70.9	44.5	74.3	59.0	43.1	60.7
Nov	65.7	65.9	76.8	58.7	78.3	55.9	56.7	55.8	64.4	71.1	45.8	74.5	58.9	40.8	60.9
Dec	65.7	66.0	76.8	60.1	78.2	56.0	57.0	55.9	64.4	71.0	45.6	74.3	59.1	41.8	61.0
1988: Jan	65.9	66.1	76.9	61.0	78.3	56.2	58.1	56.1	64.4	71.3	42.7	75.0	58.7	36.9	61.1
Feb	66.0	66.3	77.0	59.4	78.5	56.4	57.8	56.3	64.0	71.5	40.1	75.6	58.0	39.9	59.9
Mar	65.7	66.0	76.8	59.4	78.2	56.1	55.0	56.2	63.6	70.7	37.7	75.0	57.8	38.9	59.9
Apr	65.9	66.2	76.9	59.2	78.5	56.3	56.7	56.3	63.4	71.2	40.1	75.3	57.1	35.4	59.4
May	65.6	65.9	76.7	58.2	78.3	56.0	55.7	56.1	63.3	71.3	46.4	74.5	56.8	36.6	59.0
June	65.8	66.2	76.9	60.8	78.2	56.4	58.9	56.2	62.8	70.4	44.0	73.8	56.6	34.2	59.0
July	65.9	66.1	76.9	60.3	78.3	56.2	57.4	56.1	64.2	70.5	45.7	73.8	59.0	38.3	61.2
Aug	66.0	66.3	77.0	61.2	78.4	56.5	57.2	56.4	64.0	71.3	44.7	74.7	58.0	40.2	59.9
Sept	65.9	66.3	76.9	60.5	78.3	56.5	58.5	56.4	63.5	70.8	44.3	74.2	57.6	40.2	59.5
Oct	65.9	66.2	76.8	59.6	78.3	56.5	57.0	56.4	63.9	71.4	46.6	74.6	57.9	35.6	60.3
Nov	66.2	66.5	76.9	60.5	78.3	56.9	56.3	56.9	64.1	71.0	46.7	74.2	58.5	37.2	60.8

[1] Civilian labor force as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.
See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–38.—*Civilian employment/population ratio by demographic characteristic, 1954–88*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White							Black and other or black						
		Total	Males			Females			Total	Males			Females		
			Total	16–19 years	20 years and over	Total	16–19 years	20 years and over		Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
									Black and other						
1954	55.5	55.2	81.5	49.9	84.0	31.4	36.4	31.1	58.0	76.5	52.4	79.2	41.9	24.7	43.7
1955	56.7	56.5	82.2	52.0	84.7	33.0	37.0	32.7	58.7	77.6	52.7	80.4	42.2	26.4	43.9
1956	57.5	57.3	82.7	54.1	85.0	34.2	38.9	33.8	59.5	78.4	52.2	81.3	43.0	28.0	44.7
1957	57.1	56.8	81.8	52.4	84.1	34.2	38.2	33.9	59.3	77.2	48.0	80.5	43.7	26.5	45.5
1958	55.4	55.3	79.2	47.6	81.8	33.6	35.0	33.5	56.7	72.5	42.0	76.0	42.8	22.8	45.0
1959	56.0	55.9	79.9	48.1	82.8	34.0	34.8	34.0	57.5	73.8	41.4	77.6	43.2	20.3	45.7
1960	56.1	55.9	79.4	48.1	82.4	34.6	35.1	34.5	57.9	74.1	43.8	77.9	43.6	24.8	45.8
1961	55.4	55.3	78.2	45.9	81.4	34.5	34.6	34.5	56.2	71.7	41.0	75.5	42.6	23.2	44.8
1962	55.5	55.4	78.4	46.4	81.5	34.7	34.8	34.7	56.3	72.0	41.7	75.7	42.7	23.1	44.9
1963	55.4	55.3	77.7	44.7	81.1	35.0	32.9	35.2	56.2	71.8	37.4	76.2	42.7	21.3	45.2
1964	55.7	55.5	77.8	45.0	81.3	35.5	32.2	35.8	57.0	72.9	37.8	77.7	43.4	21.8	46.1
1965	56.2	56.0	77.9	47.1	81.5	36.2	33.7	36.5	57.8	73.7	39.4	78.7	44.1	20.2	47.3
1966	56.9	56.8	78.3	50.1	81.7	37.5	37.5	37.5	58.4	74.0	40.5	79.2	45.1	23.1	48.2
1967	57.3	57.2	78.4	50.2	81.7	38.3	37.7	38.3	58.2	73.8	38.8	79.4	45.0	24.8	47.9
1968	57.5	57.4	78.3	50.3	81.6	38.9	37.8	39.1	58.0	73.3	38.7	78.9	45.2	24.7	48.2
1969	58.0	58.0	78.2	51.1	81.4	40.1	39.5	40.1	58.1	72.8	39.0	78.4	45.9	25.1	48.9
1970	57.4	57.5	76.8	49.6	80.1	40.3	39.5	40.4	56.8	70.9	35.5	76.8	44.9	22.4	48.2
1971	56.6	56.8	75.7	49.2	79.0	39.9	38.6	40.1	54.9	68.1	31.8	74.2	43.9	20.2	47.3
1972	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	54.1	67.3	32.4	73.2	43.3	19.9	46.7
									Black						
1972	57.0	57.4	76.0	51.5	79.0	40.7	41.3	40.6	53.7	66.8	31.6	73.0	43.0	19.2	46.5
1973	57.8	58.2	76.5	54.3	79.2	41.8	43.6	41.6	54.5	67.5	32.8	73.7	43.8	22.0	47.2
1974	57.8	58.3	75.9	54.4	78.6	42.4	44.3	42.2	53.5	65.8	31.4	71.9	43.5	20.9	46.9
1975	56.1	56.7	73.0	50.6	75.7	42.0	42.5	41.9	50.1	60.6	26.3	66.5	41.6	20.2	44.9
1976	56.8	57.5	73.4	51.5	76.0	43.2	44.2	43.1	50.8	60.6	25.8	66.8	42.8	19.2	46.4
1977	57.9	58.6	74.1	54.4	76.5	44.5	45.9	44.4	51.4	61.4	26.4	67.5	43.3	18.5	47.0
1978	59.3	60.0	75.0	56.3	77.2	46.3	48.5	46.1	53.6	63.3	28.5	69.1	45.8	22.1	49.3
1979	59.9	60.6	75.1	55.7	77.3	47.5	49.4	47.3	53.8	63.4	28.7	69.1	46.0	22.4	49.3
1980	59.2	60.0	73.4	53.4	75.6	47.8	47.9	47.8	52.3	60.4	27.0	65.8	45.7	21.0	49.1
1981	59.0	60.0	72.8	51.3	75.1	48.3	46.2	48.5	51.3	59.1	24.6	64.5	45.1	19.7	48.5
1982	57.8	58.8	70.6	47.0	73.0	48.1	44.6	48.4	49.4	56.0	20.3	61.4	44.2	17.7	47.5
1983	57.9	58.9	70.4	47.4	72.6	48.5	44.5	48.9	49.5	56.3	20.4	61.6	44.1	17.0	47.4
1984	59.5	60.5	72.1	49.1	74.3	49.8	47.0	50.0	52.3	59.2	23.9	64.1	46.7	20.1	49.8
1985	60.1	61.0	72.3	49.9	74.3	50.7	47.1	51.0	53.4	60.0	26.3	64.6	48.1	23.1	50.9
1986	60.7	61.5	72.3	49.6	74.3	51.7	47.9	52.0	54.1	60.6	26.5	65.1	48.8	23.8	51.6
1987	61.5	62.3	72.7	49.9	74.7	52.8	49.0	53.1	55.6	62.0	28.5	66.4	50.3	25.8	53.0
1987: Jan	61.1	61.9	72.5	49.7	74.5	52.1	48.4	52.4	54.5	61.4	27.7	65.8	48.9	20.5	51.9
Feb	61.2	62.0	72.6	50.7	74.5	52.3	48.0	52.6	54.8	61.4	26.7	66.0	49.5	24.9	52.2
Mar	61.2	62.0	72.4	49.1	74.5	52.4	48.3	52.7	54.7	61.4	26.5	66.1	49.2	24.0	51.9
Apr	61.3	62.1	72.5	48.9	74.5	52.6	49.0	52.9	54.8	61.6	26.2	66.3	49.3	23.7	52.1
May	61.5	62.4	72.7	49.2	74.7	52.9	50.1	53.1	54.8	61.1	25.8	65.8	49.6	24.3	52.4
June	61.5	62.3	72.6	49.1	74.6	52.8	48.6	53.1	55.2	61.5	27.7	66.0	50.1	25.0	52.9
July	61.6	62.3	72.6	49.4	74.7	52.9	49.3	53.2	55.9	62.2	28.6	66.7	50.7	25.0	53.5
Aug	61.8	62.5	72.8	50.8	74.7	53.0	49.8	53.3	56.4	62.9	32.1	66.9	51.2	30.2	53.5
Sept	61.6	62.4	72.7	49.8	74.7	52.8	48.2	53.2	55.9	62.6	29.6	67.0	50.5	29.6	52.7
Oct	61.8	62.5	72.8	50.3	74.8	53.0	48.7	53.3	56.5	62.7	30.1	67.0	51.5	27.9	54.0
Nov	61.9	62.6	72.9	50.0	74.9	53.1	49.2	53.4	56.6	62.7	31.1	66.9	51.6	26.2	54.3
Dec	61.9	62.7	73.0	51.1	74.9	53.2	50.0	53.5	56.6	62.5	30.4	66.8	51.7	27.9	54.3
1988: Jan	62.1	62.8	73.0	52.2	74.8	53.4	50.2	53.7	56.5	62.9	27.7	67.5	51.4	24.0	54.3
Feb	62.2	63.0	73.4	52.2	75.2	53.5	50.5	53.8	55.9	62.0	23.3	67.1	51.0	26.1	53.7
Mar	62.0	62.9	73.0	50.0	75.0	53.6	48.2	54.0	55.4	61.4	23.0	66.4	50.6	25.3	53.3
Apr	62.3	63.2	73.4	50.6	75.4	53.7	48.9	54.1	55.7	62.9	29.1	67.3	49.8	22.8	52.7
May	61.9	62.8	73.0	50.2	75.0	53.5	48.8	53.8	55.5	62.4	31.0	66.5	49.8	23.2	52.7
June	62.3	63.2	73.4	53.0	75.1	53.8	52.4	53.9	55.5	62.3	30.6	66.5	50.0	25.3	52.7
July	62.3	63.0	73.4	51.5	75.2	53.5	51.0	53.7	56.8	62.7	31.8	66.8	52.0	26.1	54.8
Aug	62.3	63.1	73.2	52.7	75.0	53.8	49.3	54.1	56.7	63.3	30.3	67.6	51.4	27.1	54.0
Sept	62.4	63.1	73.3	51.4	75.1	53.8	51.1	54.0	56.7	63.4	30.3	67.7	51.3	27.2	53.8
Oct	62.4	63.2	73.2	50.7	75.1	54.0	50.8	54.2	56.9	63.3	30.9	67.5	51.7	26.2	54.4
Nov	62.6	63.4	73.3	53.2	75.0	54.3	50.0	54.6	56.9	62.9	31.6	66.9	52.1	25.9	54.9

[1] Civilian employment as percent of civilian noninstitutional population in group specified.

Note.—Data relate to persons 16 years of age and over.
See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–39.—*Unemployment rate, 1948–88*

[Percent; monthly data seasonally adjusted]

Year or month	Unemployment rate, all workers [1]	Unemployment rate, civilian workers [2]												
		All civilian workers	Males			Females			Both sexes 16–19 years	White	Black and other	Black	Experienced wage and salary workers	Married men, spouse present [3]	Women who maintain families
			Total	16–19 years	20 years and over	Total	16–19 years	20 years and over							
1948	.....	3.8	3.6	9.8	3.2	4.1	8.3	3.6	9.2	3.5	5.9	.....	4.3	.....	.....
1949	.....	5.9	5.9	14.3	5.4	6.0	12.3	5.3	13.4	5.6	8.9	.....	6.8	3.5	.....
1950	5.2	5.3	5.1	12.7	4.7	5.7	11.4	5.1	12.2	4.9	9.0	.....	6.0	4.6	.....
1951	3.2	3.3	2.8	8.1	2.5	4.4	8.3	4.0	8.2	3.1	5.3	.....	3.7	1.5	.....
1952	2.9	3.0	2.8	8.9	2.4	3.6	8.0	3.2	8.5	2.8	5.4	.....	3.4	1.4	.....
1953	2.8	2.9	2.8	7.9	2.5	3.3	7.2	2.9	7.6	2.7	4.5	.....	3.2	1.7	.....
1954	5.4	5.5	5.3	13.5	4.9	6.0	11.4	5.5	12.6	5.0	9.9	.....	6.2	4.0	.....
1955	4.3	4.4	4.2	11.6	3.8	4.9	10.2	4.4	11.0	3.9	8.7	.....	4.8	2.6	.....
1956	4.0	4.1	3.8	11.1	3.4	4.8	11.2	4.2	11.1	3.6	8.3	.....	4.4	2.3	.....
1957	4.2	4.3	4.1	12.4	3.6	4.7	10.6	4.1	11.6	3.8	7.9	.....	4.6	2.8	.....
1958	6.6	6.8	6.8	17.1	6.2	6.8	14.3	6.1	15.9	6.1	12.6	.....	7.3	5.1	.....
1959	5.3	5.5	5.2	15.3	4.7	5.9	13.5	5.2	14.6	4.8	10.7	.....	5.7	3.6	.....
1960	5.4	5.5	5.4	15.3	4.7	5.9	13.9	5.1	14.7	5.0	10.2	.....	5.7	3.7	.....
1961	6.5	6.7	6.4	17.1	5.7	7.2	16.3	6.3	16.8	6.0	12.4	.....	6.8	4.6	.....
1962	5.4	5.5	5.2	14.7	4.6	6.2	14.6	5.4	14.7	4.9	10.9	.....	5.6	3.6	.....
1963	5.5	5.7	5.2	17.2	4.5	6.5	17.2	5.4	17.2	5.0	10.8	.....	5.6	3.4	.....
1964	5.0	5.2	4.6	15.8	3.9	6.2	16.6	5.2	16.2	4.6	9.6	.....	5.0	2.8	.....
1965	4.4	4.5	4.0	14.1	3.2	5.5	15.7	4.5	14.8	4.1	8.1	.....	4.3	2.4	.....
1966	3.7	3.8	3.2	11.7	2.5	4.8	14.1	3.8	12.8	3.4	7.3	.....	3.5	1.9	.....
1967	3.7	3.8	3.1	12.3	2.3	5.2	13.5	4.2	12.9	3.4	7.4	.....	3.6	1.8	4.9
1968	3.5	3.6	2.9	11.6	2.2	4.8	14.0	3.8	12.7	3.2	6.7	.....	3.4	1.6	4.4
1969	3.4	3.5	2.8	11.4	2.1	4.7	13.3	3.7	12.2	3.1	6.4	.....	3.3	1.5	4.4
1970	4.8	4.9	4.4	15.0	3.5	5.9	15.6	4.8	15.3	4.5	8.2	.....	4.8	2.6	5.4
1971	5.8	5.9	5.3	16.6	4.4	6.9	17.2	5.7	16.9	5.4	9.9	.....	5.7	3.2	7.3
1972	5.5	5.6	5.0	15.9	4.0	6.6	16.7	5.4	16.2	5.1	10.0	10.4	5.3	2.8	7.2
1973	4.8	4.9	4.2	13.9	3.3	6.0	15.3	4.9	14.5	4.3	9.0	9.4	4.5	2.3	7.1
1974	5.5	5.6	4.9	15.6	3.8	6.7	16.6	5.5	16.0	5.0	9.9	10.5	5.3	2.7	7.0
1975	8.3	8.5	7.9	20.1	6.8	9.3	19.7	8.0	19.9	7.8	13.8	14.8	8.2	5.1	10.0
1976	7.6	7.7	7.1	19.2	5.9	8.6	18.7	7.4	19.0	7.0	13.1	14.0	7.3	4.2	10.1
1977	6.9	7.1	6.3	17.3	5.2	8.2	18.3	7.0	17.8	6.2	13.1	14.0	6.6	3.6	9.4
1978	6.0	6.1	5.3	15.8	4.3	7.2	17.1	6.0	16.4	5.2	11.9	12.8	5.6	2.8	8.5
1979	5.8	5.8	5.1	15.9	4.2	6.8	16.4	5.7	16.1	5.1	11.3	12.3	5.5	2.8	8.3
1980	7.0	7.1	6.9	18.3	5.9	7.4	17.2	6.4	17.8	6.3	13.1	14.3	6.9	4.2	9.2
1981	7.5	7.6	7.4	20.1	6.3	7.9	19.0	6.8	19.6	6.7	14.2	15.6	7.3	4.3	10.4
1982	9.5	9.7	9.9	24.4	8.8	9.4	21.9	8.3	23.2	8.6	17.3	18.9	9.3	6.5	11.7
1983	9.5	9.6	9.9	23.3	8.9	9.2	21.3	8.1	22.4	8.4	17.8	19.5	9.2	6.5	12.2
1984	7.4	7.5	7.4	19.6	6.6	7.6	18.0	6.8	18.9	6.5	14.4	15.9	7.1	4.6	10.3
1985	7.1	7.2	7.0	19.5	6.2	7.4	17.6	6.6	18.6	6.2	13.7	15.1	6.8	4.3	10.4
1986	6.9	7.0	6.9	19.0	6.1	7.1	17.6	6.2	18.3	6.0	13.1	14.5	6.6	4.4	9.8
1987	6.1	6.2	6.2	17.8	5.4	6.2	15.9	5.4	16.9	5.3	11.6	13.0	5.8	3.9	9.2
1987: Jan	6.6	6.7	6.7	18.5	6.0	6.6	16.8	5.9	17.7	5.8	12.5	14.1	6.3	4.2	9.8
Feb	6.5	6.6	6.6	18.5	5.8	6.6	17.1	5.8	17.9	5.7	12.6	14.0	6.2	4.1	9.6
Mar	6.4	6.5	6.6	19.0	5.7	6.5	16.6	5.7	17.8	5.6	12.4	13.9	6.1	4.1	9.7
Apr	6.2	6.3	6.4	18.7	5.6	6.3	15.9	5.5	17.3	5.5	11.8	13.0	5.9	4.1	9.4
May	6.2	6.3	6.4	19.6	5.6	6.2	15.6	5.4	17.6	5.4	12.1	13.7	5.9	4.0	9.5
June	6.0	6.1	6.2	16.4	5.5	6.0	15.5	5.3	16.0	5.3	11.5	12.8	5.8	4.0	9.5
July	6.0	6.0	6.0	15.9	5.4	6.1	15.7	5.4	15.8	5.2	11.4	12.7	5.8	3.8	9.3
Aug	5.9	6.0	6.1	17.8	5.2	6.0	14.4	5.3	16.2	5.2	11.3	12.4	5.7	3.7	9.0
Sept	5.8	5.9	5.8	17.3	5.0	6.1	15.4	5.4	16.4	5.1	10.9	12.3	5.5	3.7	8.8
Oct	5.9	6.0	5.9	17.4	5.1	6.1	16.9	5.2	17.2	5.2	10.8	12.1	5.5	3.7	8.9
Nov	5.8	5.9	5.8	17.2	5.0	6.0	16.0	5.2	16.6	5.1	11.0	12.2	5.5	3.5	8.5
Dec	5.7	5.8	5.7	17.2	4.9	5.9	14.8	5.2	16.1	4.9	10.9	12.2	5.4	3.4	8.4
1988: Jan	5.7	5.8	5.8	16.4	5.1	5.9	15.6	5.1	16.0	5.0	10.9	12.2	5.5	3.6	8.9
Feb	5.6	5.7	5.6	15.6	4.9	5.9	15.1	5.2	15.4	4.8	11.3	12.6	5.3	3.4	8.3
Mar	5.5	5.6	5.7	17.8	4.9	5.5	15.2	4.8	16.5	4.7	11.5	12.8	5.2	3.4	7.5
Apr	5.4	5.4	5.3	15.8	4.6	5.6	16.0	4.8	15.9	4.6	10.7	12.2	5.0	3.0	8.7
May	5.5	5.6	5.6	16.2	4.9	5.6	15.0	4.9	15.6	4.7	11.3	12.4	5.4	3.3	8.4
June	5.2	5.3	5.2	14.7	4.6	5.4	12.4	4.9	13.6	4.5	10.3	11.5	5.0	3.1	7.8
July	5.4	5.4	5.3	16.6	4.5	5.7	13.6	5.1	15.2	4.7	10.0	11.4	5.1	3.0	8.6
Aug	5.5	5.6	5.6	15.9	4.9	5.6	15.8	4.8	15.8	4.9	10.0	11.3	5.3	3.4	7.4
Sept	5.3	5.4	5.3	16.7	4.5	5.5	14.7	4.8	15.7	4.8	9.4	10.8	5.1	3.1	8.1
Oct	5.2	5.3	5.4	16.9	4.6	5.3	12.8	4.7	14.9	4.6	9.6	11.0	5.0	3.1	7.9
Nov	5.3	5.4	5.4	14.5	4.8	5.3	13.1	4.8	13.9	4.6	10.0	11.2	5.1	3.4	7.6

[1] Unemployed as percent of labor force including resident Armed Forces.
[2] Unemployed as percent of civilian labor force in group specified.
[3] Data for 1949 and 1951–54 are for April; 1950, for March.

Note.—Data relate to persons 16 years of age and over.
See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–40.—*Civilian unemployment rate by demographic characteristic, 1948–88*

[Percent;[1] monthly data seasonally adjusted]

Year or month	All civilian workers	White						Black and other or black					
			Males			Females			Males			Females		
		Total	Total	16–19 years	20 years and over	Total	16–19 years	20 years and over	Total	Total	16–19 years	20 years and over	Total	16–19 years	20 years and over
									Black and other						
1948	3.8	3.5	3.4			3.8			5.9	5.8			6.1		
1949	5.9	5.6	5.6			5.7			8.9	9.6			7.9		
1950	5.3	4.9	4.7			5.3			9.0	9.4			8.4		
1951	3.3	3.1	2.6			4.2			5.3	4.9			6.1		
1952	3.0	2.8	2.5			3.3			5.4	5.2			5.7		
1953	2.9	2.7	2.5			3.1			4.5	4.8			4.1		
1954	5.5	5.0	4.8	13.4	4.4	5.5	10.4	5.1	9.9	10.3	14.4	9.9	9.2	20.6	8.4
1955	4.4	3.9	3.7	11.3	3.3	4.3	9.1	3.9	8.7	8.8	13.4	8.4	8.5	19.2	7.7
1956	4.1	3.6	3.4	10.5	3.0	4.2	9.7	3.7	8.3	7.9	15.0	7.4	8.9	22.8	7.8
1957	4.3	3.8	3.6	11.5	3.2	4.3	9.5	3.8	7.9	8.1	18.4	7.6	7.3	20.2	6.4
1958	6.8	6.1	6.1	15.7	5.5	6.2	12.7	5.6	12.6	13.7	26.8	12.7	10.8	28.4	9.5
1959	5.5	4.8	4.6	14.0	4.1	5.3	12.0	4.7	10.7	11.5	25.2	10.5	9.4	27.7	8.3
1960	5.5	5.0	4.8	14.0	4.2	5.3	12.7	4.6	10.2	10.7	24.0	9.6	9.4	24.8	8.3
1961	6.7	6.0	5.7	15.7	5.1	6.5	14.8	5.7	12.4	12.8	26.8	11.7	11.9	29.2	10.6
1962	5.5	4.9	4.6	13.7	4.0	5.5	12.8	4.7	10.9	10.9	22.0	10.0	11.0	30.2	9.6
1963	5.7	5.0	4.7	15.9	3.9	5.8	15.1	4.8	10.8	10.5	27.3	9.2	11.2	34.7	9.4
1964	5.2	4.6	4.1	14.7	3.4	5.5	14.9	4.6	9.6	8.9	24.3	7.7	10.7	31.6	9.0
1965	4.5	4.1	3.6	12.9	2.9	5.0	14.0	4.0	8.1	7.4	23.3	6.0	9.2	31.7	7.5
1966	3.8	3.4	2.8	10.5	2.2	4.3	12.1	3.3	7.3	6.3	21.3	4.9	8.7	31.3	6.6
1967	3.8	3.4	2.7	10.7	2.1	4.6	11.5	3.8	7.4	6.0	23.9	4.3	9.1	29.6	7.1
1968	3.6	3.2	2.6	10.1	2.0	4.3	12.1	3.4	6.7	5.6	22.1	3.9	8.3	28.7	6.3
1969	3.5	3.1	2.5	10.0	1.9	4.2	11.5	3.4	6.4	5.3	21.4	3.7	7.8	27.6	5.8
1970	4.9	4.5	4.0	13.7	3.2	5.4	13.4	4.4	8.2	7.3	25.0	5.6	9.3	34.5	6.9
1971	5.9	5.4	4.9	15.1	4.0	6.3	15.1	5.3	9.9	9.1	28.8	7.3	10.9	35.4	8.7
1972	5.6	5.1	4.5	14.2	3.6	5.9	14.2	4.9	10.0	8.9	29.7	6.9	11.4	38.4	8.8
									Black						
1972	5.6	5.1	4.5	14.2	3.6	5.9	14.2	4.9	10.4	9.3	31.7	7.0	11.8	40.5	9.0
1973	4.9	4.3	3.8	12.3	3.0	5.3	13.0	4.3	9.4	8.0	27.8	6.0	11.1	36.1	8.6
1974	5.6	5.0	4.4	13.5	3.5	6.1	14.5	5.1	10.5	9.8	33.1	7.4	11.3	37.4	8.8
1975	8.5	7.8	7.2	18.3	6.2	8.6	17.4	7.5	14.8	14.8	38.1	12.5	14.8	41.0	12.2
1976	7.7	7.0	6.4	17.3	5.4	7.9	16.4	6.8	14.0	13.7	37.5	11.4	14.3	41.6	11.7
1977	7.1	6.2	5.5	15.0	4.7	7.3	15.9	6.2	14.0	13.3	39.2	10.7	14.9	43.4	12.3
1978	6.1	5.2	4.6	13.5	3.7	6.2	14.4	5.2	12.8	11.8	36.7	9.3	13.8	40.8	11.2
1979	5.8	5.1	4.5	13.9	3.6	5.9	14.0	5.0	12.3	11.4	34.2	9.3	13.3	39.1	10.9
1980	7.1	6.3	6.1	16.2	5.3	6.5	14.8	5.6	14.3	14.5	37.5	12.4	14.0	39.8	11.9
1981	7.6	6.7	6.5	17.9	5.6	6.9	16.6	5.9	15.6	15.7	40.7	13.5	15.6	42.2	13.4
1982	9.7	8.6	8.8	21.7	7.8	8.3	19.0	7.3	18.9	20.1	48.9	17.8	17.6	47.1	15.4
1983	9.6	8.4	8.8	20.2	7.9	7.9	18.3	6.9	19.5	20.3	48.8	18.1	18.6	48.2	16.5
1984	7.5	6.5	6.4	16.8	5.7	6.5	15.2	5.8	15.9	16.4	42.7	14.3	15.4	42.6	13.5
1985	7.2	6.2	6.1	16.5	5.4	6.4	14.8	5.7	15.1	15.3	41.0	13.2	14.9	39.2	13.1
1986	7.0	6.0	6.0	16.3	5.3	6.1	14.9	5.4	14.5	14.8	39.3	12.9	14.2	39.2	12.4
1987	6.2	5.3	5.4	15.5	4.8	5.2	13.4	4.6	13.0	12.7	34.4	11.1	13.2	34.9	11.6
1987: Jan	6.7	5.8	5.9	16.1	5.2	5.6	14.0	5.0	14.1	13.9	36.5	12.1	14.4	42.3	12.6
Feb	6.6	5.7	5.8	16.0	5.1	5.5	14.1	4.8	14.0	13.7	37.9	11.9	14.3	38.0	12.6
Mar	6.5	5.6	5.8	16.8	5.0	5.4	13.7	4.7	13.9	13.3	36.1	11.6	14.4	38.0	12.7
Apr	6.3	5.5	5.6	16.3	4.9	5.3	13.3	4.6	13.0	12.9	37.8	11.0	13.2	36.3	11.6
May	6.3	5.4	5.6	17.0	4.8	5.2	13.3	4.5	13.7	14.1	38.3	12.3	13.2	36.6	11.6
June	6.1	5.3	5.5	14.8	4.9	5.1	13.0	4.4	12.8	12.7	31.4	11.4	12.9	35.4	11.3
July	6.0	5.2	5.2	13.5	4.7	5.1	13.1	4.5	12.7	12.6	32.4	11.2	12.8	33.1	11.4
Aug	6.0	5.2	5.2	15.2	4.6	5.1	12.9	4.4	12.4	12.5	33.7	10.7	12.4	27.1	11.3
Sept	5.9	5.1	5.1	15.1	4.4	5.1	13.4	4.5	12.3	11.7	31.5	10.1	13.0	30.0	11.7
Oct	6.0	5.2	5.3	15.1	4.6	5.0	13.0	4.3	12.1	11.5	32.5	9.8	12.8	35.2	11.0
Nov	5.9	5.1	5.1	14.8	4.4	5.0	13.3	4.4	12.2	11.8	32.2	10.2	12.5	35.8	10.8
Dec	5.8	4.9	4.9	14.9	4.3	4.9	12.3	4.4	12.2	11.9	33.5	10.1	12.5	33.4	10.9
1988: Jan	5.8	5.0	5.0	14.4	4.4	4.9	13.6	4.2	12.2	11.8	35.1	10.1	12.6	34.9	11.1
Feb	5.7	4.8	4.6	12.2	4.1	5.1	12.7	4.5	12.6	13.3	42.0	11.3	12.0	34.7	10.4
Mar	5.6	4.7	4.9	15.7	4.2	4.5	12.4	3.9	12.8	13.1	39.0	11.4	12.5	35.0	10.9
Apr	5.4	4.6	4.6	14.5	4.0	4.6	13.7	3.9	12.2	11.7	27.6	10.6	12.7	35.5	11.3
May	5.6	4.7	4.8	13.8	4.2	4.6	12.4	4.0	12.4	12.5	33.3	10.8	12.3	36.6	10.6
June	5.3	4.5	4.5	12.8	4.0	4.6	11.1	4.0	11.5	11.5	30.4	10.0	11.6	25.9	10.7
July	5.4	4.7	4.6	14.6	3.9	4.8	11.1	4.3	11.4	11.1	30.4	9.5	11.8	31.8	10.4
Aug	5.6	4.9	4.9	13.8	4.3	4.8	13.8	4.1	11.3	11.2	32.2	9.6	11.4	32.7	9.9
Sept	5.4	4.8	4.8	15.0	4.1	4.8	12.5	4.2	10.8	10.5	31.7	8.8	11.0	32.2	9.5
Oct	5.3	4.6	4.8	14.8	4.1	4.4	11.0	3.9	11.0	11.3	33.5	9.4	10.7	26.5	9.7
Nov	5.4	4.6	4.8	12.2	4.3	4.5	11.2	4.0	11.2	11.5	32.4	9.8	11.0	30.4	9.7

[1] Unemployed as percent of civilian labor force in group specified.

Note.—See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–41.—*Unemployment by duration and reason, 1947–88*

[Monthly data seasonally adjusted[1]]

Year or month	Unemployment	Duration of unemployment						Reason for unemployment			
		Less than 5 weeks	5–14 weeks	15–26 weeks	27 weeks and over	Average (mean) duration	Median duration	Job losers	Job leavers	Reentrants	New entrants
	Thousands of persons 16 years of age and over					Weeks		Thousands of persons 16 years of age and over			
1947	2,311	1,210	704	234	164						
1948	2,276	1,300	669	193	116	8.6					
1949	3,637	1,756	1,194	428	256	10.0					
1950	3,288	1,450	1,055	425	357	12.1					
1951	2,055	1,177	574	166	137	9.7					
1952	1,883	1,135	516	148	84	8.4					
1953	1,834	1,142	482	132	78	8.0					
1954	3,532	1,605	1,116	495	317	11.8					
1955	2,852	1,335	815	366	336	13.0					
1956	2,750	1,412	805	301	232	11.3					
1957	2,859	1,408	891	321	239	10.5					
1958	4,602	1,753	1,396	785	667	13.9					
1959	3,740	1,585	1,114	469	571	14.4					
1960	3,852	1,719	1,176	503	454	12.8					
1961	4,714	1,806	1,376	728	804	15.6					
1962	3,911	1,663	1,134	534	585	14.7					
1963	4,070	1,751	1,231	535	553	14.0					
1964	3,786	1,697	1,117	491	482	13.3					
1965	3,366	1,628	983	404	351	11.8					
1966	2,875	1,573	779	287	239	10.4					
1967 [2]	2,975	1,634	893	271	177	8.7		1,229	438	945	396
1968	2,817	1,594	810	256	156	8.4	4.5	1,070	431	909	407
1969	2,832	1,629	827	242	133	7.8	4.4	1,017	436	965	413
1970	4,093	2,139	1,290	428	235	8.6	4.9	1,811	550	1,228	504
1971	5,016	2,245	1,585	668	519	11.3	6.3	2,323	590	1,472	630
1972	4,882	2,242	1,472	601	566	12.0	6.2	2,108	641	1,456	677
1973	4,365	2,224	1,314	483	343	10.0	5.2	1,694	683	1,340	649
1974	5,156	2,604	1,597	574	381	9.8	5.2	2,242	768	1,463	681
1975	7,929	2,940	2,484	1,303	1,203	14.2	8.4	4,386	827	1,892	823
1976	7,406	2,844	2,196	1,018	1,348	15.8	8.2	3,679	903	1,928	895
1977	6,991	2,919	2,132	913	1,028	14.3	7.0	3,166	909	1,963	953
1978	6,202	2,865	1,923	766	648	11.9	5.9	2,585	874	1,857	885
1979	6,137	2,950	1,946	706	535	10.8	5.4	2,635	880	1,806	817
1980	7,637	3,295	2,470	1,052	820	11.9	6.5	3,947	891	1,927	872
1981	8,273	3,449	2,539	1,122	1,162	13.7	6.9	4,267	923	2,102	981
1982	10,678	3,883	3,311	1,708	1,776	15.6	8.7	6,268	840	2,384	1,185
1983	10,717	3,570	2,937	1,652	2,559	20.0	10.1	6,258	830	2,412	1,216
1984	8,539	3,350	2,451	1,104	1,634	18.2	7.9	4,421	823	2,184	1,110
1985	8,313	3,498	2,509	1,025	1,280	15.6	6.8	4,139	877	2,256	1,039
1986	8,237	3,448	2,557	1,045	1,187	15.0	6.9	4,033	1,015	2,160	1,029
1987	7,425	3,246	2,196	943	1,040	14.5	6.5	3,566	965	1,974	920
1987: Jan.	7,964	3,365	2,489	1,023	1,164	15.0	7.0	3,971	909	2,059	1,048
Feb	7,886	3,343	2,444	1,004	1,125	14.8	6.7	3,835	1,033	2,038	1,007
Mar	7,791	3,352	2,411	944	1,111	14.9	6.7	3,791	996	2,078	952
Apr	7,557	3,195	2,256	984	1,076	14.8	6.9	3,705	955	1,965	918
May	7,573	3,308	2,165	974	1,093	14.8	6.6	3,612	931	1,995	999
June	7,308	3,138	2,151	973	1,056	14.7	6.6	3,554	959	1,980	854
July	7,251	3,186	2,144	945	975	14.2	6.6	3,529	989	1,930	844
Aug	7,256	3,203	2,142	834	1,062	14.3	6.4	3,389	992	1,969	855
Sept	7,091	3,220	1,949	917	987	14.2	5.8	3,313	981	1,908	882
Oct	7,177	3,223	2,093	844	957	14.1	6.2	3,388	960	1,845	914
Nov	7,090	3,218	2,029	899	935	14.0	6.1	3,307	926	1,974	855
Dec	6,978	3,229	1,968	892	899	14.2	6.0	3,200	946	1,945	909
1988: Jan.	7,046	3,089	2,263	839	894	14.4	6.4	3,209	1,082	1,917	885
Feb	6,938	3,084	2,145	841	899	14.4	6.4	3,207	961	1,951	864
Mar	6,801	3,009	2,101	887	835	13.7	6.6	3,139	1,075	1,756	887
Apr	6,610	3,125	1,956	725	816	13.4	5.6	2,916	993	1,784	915
May	6,783	3,075	2,110	784	825	13.8	5.9	3,236	926	1,789	807
June	6,455	3,066	1,890	727	785	12.9	6.0	3,059	944	1,723	777
July	6,625	2,965	2,078	838	791	13.6	6.3	3,087	904	1,901	776
Aug	6,851	3,197	1,957	859	817	13.7	5.9	3,138	997	1,869	793
Sept	6,596	3,139	1,823	789	807	13.7	5.5	3,087	994	1,761	745
Oct	6,491	3,062	1,814	778	773	13.5	5.6	2,909	986	1,764	728
Nov	6,595	3,153	1,924	776	711	12.5	5.5	3,037	948	1,765	805

[1] Because of independent seasonal adjustment of the various series, detail will not add to totals.

[2] Data for 1967 by reason for unemployment are not strictly comparable with those for later years and the total by reason is not equal to total unemployment.

Note.—See footnote 6 and Note, Table B–32.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–42.—*Unemployment insurance programs, selected data, 1955–88*

Year or month	All programs			State programs					
	Covered employment[1]	Insured unemployment (weekly average)[2,3]	Total benefits paid (millions of dollars)[2,4]	Insured unemployment	Initial claims	Exhaustions[4]	Insured unemployment as percent of covered employment	Benefits paid: Total (millions of dollars)[4]	Benefits paid: Average weekly check (dollars)[4]
	Thousands			Weekly average; thousands					
1955	40,018	1,399	1,560.2	1,265	226	25	3.5	1,350.3	25.04
1956	42,751	1,323	1,540.6	1,215	227	20	3.2	1,380.7	27.02
1957	43,436	1,571	1,913.0	1,446	270	23	3.6	1,733.9	28.17
1958	44,411	2,773	4,290.6	2,510	369	50	6.4	3,512.7	30.58
1959	45,728	1,860	2,854.3	1,584	277	33	4.4	2,279.0	30.41
1960	46,334	2,071	3,022.8	1,908	331	31	4.8	2,726.7	32.87
1961	46,266	2,994	4,358.1	2,290	350	46	5.6	3,422.7	33.80
1962	47,776	1,946	3,145.1	1,783	302	32	4.4	2,675.4	34.56
1963	48,434	[7]1,973	3,025.9	[7]1,806	[7]298	30	4.3	2,774.7	35.27
1964	49,637	1,753	2,749.2	1,605	268	26	3.8	2,522.1	35.92
1965	51,580	1,450	2,360.4	1,328	232	21	3.0	2,166.0	37.19
1966	54,739	1,129	1,890.9	1,061	203	15	2.3	1,771.3	39.75
1967	56,342	1,270	2,221.5	1,205	226	17	2.5	2,092.3	41.25
1968	57,977	1,187	2,191.0	1,111	201	16	2.2	2,031.6	43.43
1969	59,999	1,177	2,298.6	1,101	200	16	2.1	2,127.9	46.17
1970	59,526	2,070	4,209.3	1,805	296	25	3.4	3,848.5	50.34
1971	59,375	2,608	6,154.0	2,150	295	38	4.1	4,957.0	54.02
1972	66,458	2,192	5,491.1	1,848	261	35	3.5	4,471.0	56.76
1973	69,897	1,793	4,517.3	1,632	247	29	2.7	4,007.6	59.00
1974	72,451	2,558	6,933.9	2,262	363	37	3.5	5,974.9	64.25
1975	71,037	4,937	16,802.4	3,986	478	81	6.0	11,754.7	70.23
1976	73,459	3,846	12,344.8	2,991	386	63	4.6	8,974.5	75.16
1977	76,419	3,308	10,998.9	2,655	375	55	3.9	8,357.2	78.79
1978	88,804	2,645	9,006.9	2,359	346	39	3.3	7,717.2	83.67
1979	92,062	2,592	9,401.3	2,434	388	39	2.9	8,612.9	89.67
1980	92,659	3,837	16,175.4	3,350	488	59	3.9	13,761.1	98.95
1981	93,300	3,410	15,287.1	3,047	460	57	3.5	13,262.1	106.70
1982	91,628	4,594	23,774.8	4,061	583	80	4.6	20,649.5	119.37
1983	91,898	3,775	20,206.2	3,356	438	80	3.9	17,762.8	123.59
1984	96,474	2,561	13,109.6	2,476	377	50	2.8	12,594.7	123.47
1985	99,186	2,693	14,495.1	2,611	396	50	2.9	13,977.8	128.23
1986	101,099	2,746	15,892.1	2,650	378	52	2.8	15,402.8	135.72
1987	[8]98,757	2,401	14,532.0	2,332	328	46	2.4	14,260.9	140.58
				**	**		**		
1987: Jan		3,276	1,576.4	2,523	363	52	2.7	1,523.7	139.11
Feb		3,155	1,556.2	2,470	361	52	2.6	1,499.7	140.80
Mar		2,933	1,659.0	2,439	342	53	2.6	1,601.7	140.91
Apr		2,526	1,421.9	2,367	334	58	2.5	1,379.4	140.77
May		2,216	1,118.7	2,321	333	49	2.4	1,084.4	140.64
June		2,108	1,153.8	2,297	331	47	2.4	1,120.7	140.47
July		2,210	1,167.8	2,273	329	51	2.4	1,135.8	139.24
Aug		2,030	1,048.5	2,223	307	39	2.3	1,019.2	140.09
Sept		1,800	983.3	2,102	289	39	2.2	954.7	140.27
Oct		1,759	892.4	2,035	293	38	2.1	865.7	141.58
Nov		1,931	895.3	2,037	303	35	2.1	869.8	141.13
Dec		2,322	1,239.6	2,090	317	42	2.2	1,206.4	142.50
1988: Jan		2,870	1,362.7	2,242	356	40	2.3	1,337.6	145.06
Feb		2,775	1,473.8	2,208	327	41	2.3	1,445.2	147.40
Mar		2,536	1,574.3	2,140	308	43	2.2	1,542.8	147.17
Apr		2,208	1,165.9	2,087	302	44	2.1	1,140.6	145.74
May		1,949	1,042.9	2,064	313	41	2.1	1,016.6	145.05
June		1,877	1,065.9	2,064	302	39	2.1	1,034.5	143.28
July		2,044	989.7	2,096	328	39	2.1	961.9	142.56
Aug		1,905	1,122.8	2,098	306	37	2.1	1,093.4	137.79
Sept		1,722	926.5	2,015	289	33	2.0	903.5	145.19
Oct		1,667	841.9	1,934	288	32	1.9	820.2	146.06
Nov [p]				1,955	294		2.0		

**Monthly data are seasonally adjusted.

[1] Includes persons under the State, UCFE (Federal employee, effective January 1955), and RRB (Railroad Retirement Board) programs. Beginning October 1958, also includes the UCX program (unemployment compensation for ex-servicemen).

[2] Includes State, UCFE, RR, UCX, UCV (unemployment compensation for veterans, October 1952–January 1960), and SRA (Servicemen's Readjustment Act, September 1944–September 1951) programs. Also includes Federal and State extended benefit programs. Does not include FSB (Federal supplemental benefits), SUA (special unemployment assistance), and Federal Supplemental Compensation programs. 1988 monthly data exclude railroad, for which data are not yet available.

[3] Covered workers who have completed at least 1 week of unemployment.

[4] Annual data are net amounts and monthly data are gross amounts.

[5] Individuals receiving final payments in benefit year.

[6] For total unemployment only.

[7] Programs include Puerto Rican sugarcane workers for initial claims and insured unemployment beginning July 1963.

[8] Latest data available for all programs combined. Workers covered by State programs account for about 97 percent of wage and salary earners.

Source: Department of Labor, Employment and Training Administration.

TABLE B–43.—*Employees on nonagricultural payrolls, by major industry, 1946–88*

[Thousands of persons; monthly data seasonally adjusted]

Year or month	Total	Goods-producing industries					
		Total	Mining	Construction	Manufacturing		
					Total	Durable goods	Nondurable goods
1946	41,652	17,248	862	1,683	14,703	7,742	6,962
1947	43,857	18,509	955	2,009	15,545	8,385	7,159
1948	44,866	18,774	994	2,198	15,582	8,326	7,256
1949	43,754	17,565	930	2,194	14,441	7,489	6,953
1950	45,197	18,506	901	2,364	15,241	8,094	7,147
1951	47,819	19,959	929	2,637	16,393	9,089	7,304
1952	48,793	20,198	898	2,668	16,632	9,349	7,284
1953	50,202	21,074	866	2,659	17,549	10,110	7,438
1954	48,990	19,751	791	2,646	16,314	9,129	7,185
1955	50,641	20,513	792	2,839	16,882	9,541	7,341
1956	52,369	21,104	822	3,039	17,243	9,833	7,411
1957	52,853	20,964	828	2,962	17,174	9,855	7,321
1958	51,324	19,513	751	2,817	15,945	8,829	7,116
1959	53,268	20,411	732	3,004	16,675	9,373	7,303
1960	54,189	20,434	712	2,926	16,796	9,459	7,337
1961	53,999	19,857	672	2,859	16,326	9,070	7,256
1962	55,549	20,451	650	2,948	16,853	9,480	7,373
1963	56,653	20,640	635	3,010	16,995	9,616	7,380
1964	58,283	21,005	634	3,097	17,274	9,816	7,458
1965	60,765	21,926	632	3,232	18,062	10,405	7,656
1966	63,901	23,158	627	3,317	19,214	11,282	7,930
1967	65,803	23,308	613	3,248	19,447	11,439	8,007
1968	67,897	23,737	606	3,350	19,781	11,626	8,155
1969	70,384	24,361	619	3,575	20,167	11,895	8,272
1970	70,880	23,578	623	3,588	19,367	11,208	8,158
1971	71,214	22,935	609	3,704	18,623	10,636	7,987
1972	73,675	23,658	628	3,889	19,151	11,049	8,102
1973	76,790	24,893	642	4,097	20,154	11,891	8,262
1974	78,265	24,794	697	4,020	20,077	11,925	8,152
1975	76,945	22,600	752	3,525	18,323	10,688	7,635
1976	79,382	23,352	779	3,576	18,997	11,077	7,920
1977	82,471	24,346	813	3,851	19,682	11,597	8,086
1978	86,697	25,585	851	4,229	20,505	12,274	8,231
1979	89,823	26,461	958	4,463	21,040	12,760	8,280
1980	90,406	25,658	1,027	4,346	20,285	12,187	8,098
1981	91,156	25,497	1,139	4,188	20,170	12,109	8,061
1982	89,566	23,813	1,128	3,905	18,781	11,039	7,741
1983	90,200	23,334	952	3,948	18,434	10,732	7,702
1984	94,496	24,727	966	4,383	19,378	11,505	7,873
1985	97,519	24,859	927	4,673	19,260	11,490	7,770
1986	99,525	24,558	777	4,816	18,965	11,230	7,734
1987	102,310	24,784	721	4,998	19,065	11,218	7,847
1987: Jan.	100,795	24,501	704	4,927	18,870	11,114	7,756
Feb	101,016	24,533	703	4,928	18,902	11,138	7,764
Mar	101,260	24,536	705	4,918	18,913	11,135	7,778
Apr.	101,615	24,596	711	4,943	18,942	11,146	7,796
May	101,829	24,653	716	4,967	18,970	11,159	7,811
June	102,078	24,684	719	4,983	18,982	11,166	7,816
July	102,430	24,788	722	4,997	19,069	11,190	7,879
Aug.	102,672	24,851	728	5,012	19,111	11,246	7,865
Sept.	102,906	24,902	734	5,012	19,156	11,269	7,887
Oct.	103,371	25,025	740	5,060	19,225	11,315	7,910
Nov.	103,678	25,123	736	5,090	19,297	11,355	7,942
Dec.	104,001	25,201	735	5,118	19,348	11,390	7,958
1988: Jan.	104,262	25,180	728	5,083	19,369	11,393	7,976
Feb.	104,729	25,271	731	5,150	19,390	11,404	7,986
Mar.	105,020	25,330	733	5,192	19,405	11,411	7,994
Apr.	105,281	25,435	737	5,238	19,460	11,459	8,001
May	105,489	25,466	739	5,237	19,490	11,477	8,013
June	106,057	25,592	740	5,308	19,544	11,515	8,029
July	106,271	25,663	740	5,330	19,593	11,566	8,027
Aug.	106,425	25,639	739	5,340	19,560	11,547	8,013
Sept.	106,737	25,648	734	5,365	19,549	11,537	8,012
Oct.	106,975	25,741	729	5,364	19,648	11,595	8,053
Nov. p	107,438	25,860	722	5,419	19,719	11,642	8,077

See next page for continuation of table.

TABLE B–43.—*Employees on nonagricultural payrolls, by major industry, 1946–88*—Continued

[Thousands of persons; monthly data seasonally adjusted]

Year or month	Service-producing industries								
	Total	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
							Total	Federal	State and local
1946	24,404	4,061	2,291	6,084	1,675	4,697	5,595	2,254	3,341
1947	25,348	4,166	2,471	6,485	1,728	5,025	5,474	1,892	3,582
1948	26,092	4,189	2,605	6,667	1,800	5,181	5,650	1,863	3,787
1949	26,189	4,001	2,602	6,662	1,828	5,240	5,856	1,908	3,948
1950	26,691	4,034	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	27,860	4,226	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	28,595	4,248	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	29,128	4,290	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	29,239	4,084	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	30,128	4,141	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	31,266	4,244	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	31,889	4,241	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	31,811	3,976	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959	32,857	4,011	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	33,755	4,004	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	34,142	3,903	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	35,098	3,906	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	36,013	3,903	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	37,278	3,951	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	38,839	4,036	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	40,743	4,158	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	42,495	4,268	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	44,160	4,318	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	46,023	4,442	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	47,302	4,515	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	48,278	4,476	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	50,007	4,541	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	51,897	4,656	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	53,471	4,725	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	54,345	4,542	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	56,030	4,582	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	58,125	4,713	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	61,113	4,923	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	63,363	5,136	5,204	14,989	4,975	17,112	15,947	2,773	13,174
1980	64,748	5,146	5,275	15,035	5,160	17,890	16,241	2,866	13,375
1981	65,659	5,165	5,358	15,189	5,298	18,619	16,031	2,772	13,259
1982	65,753	5,082	5,278	15,179	5,341	19,036	15,837	2,739	13,098
1983	66,866	4,954	5,268	15,613	5,468	19,694	15,869	2,774	13,096
1984	69,769	5,159	5,555	16,545	5,689	20,797	16,024	2,807	13,216
1985	72,660	5,238	5,717	17,356	5,955	22,000	16,394	2,875	13,519
1986	74,967	5,255	5,753	17,930	6,283	23,053	16,693	2,899	13,794
1987	77,525	5,385	5,872	18,509	6,549	24,196	17,015	2,943	14,072
1987: Jan	76,294	5,304	5,778	18,210	6,445	23,668	16,889	2,909	13,980
Feb	76,483	5,316	5,797	18,279	6,466	23,743	16,882	2,914	13,968
Mar	76,724	5,331	5,807	18,327	6,491	23,858	16,910	2,923	13,987
Apr	77,019	5,354	5,829	18,394	6,518	23,962	16,962	2,930	14,032
May	77,176	5,356	5,841	18,417	6,539	24,053	16,970	2,936	14,034
June	77,394	5,363	5,860	18,481	6,553	24,153	16,984	2,939	14,045
July	77,642	5,373	5,874	18,543	6,570	24,273	17,009	2,941	14,068
Aug	77,821	5,394	5,892	18,569	6,581	24,369	17,016	2,943	14,073
Sept	78,004	5,427	5,914	18,605	6,588	24,415	17,055	2,962	14,093
Oct	78,346	5,448	5,935	18,705	6,604	24,524	17,130	2,966	14,164
Nov	78,555	5,466	5,958	18,761	6,608	24,604	17,158	2,974	14,184
Dec	78,800	5,481	5,984	18,784	6,619	24,725	17,207	2,980	14,227
1988: Jan	79,082	5,499	6,010	18,927	6,633	24,795	17,218	2,973	14,245
Feb	79,458	5,513	6,035	19,045	6,636	24,975	17,254	2,972	14,282
Mar	79,690	5,530	6,061	19,050	6,651	25,078	17,320	2,970	14,350
Apr	79,846	5,543	6,089	19,093	6,650	25,163	17,308	2,963	14,345
May	80,023	5,556	6,115	19,130	6,656	25,216	17,350	2,957	14,393
June	80,455	5,582	6,148	19,205	6,679	25,472	17,379	2,951	14,428
July	80,608	5,598	6,174	19,261	6,684	25,561	17,330	2,951	14,379
Aug	80,786	5,605	6,192	19,279	6,689	25,662	17,359	2,956	14,403
Sept	81,089	5,618	6,219	19,291	6,692	25,737	17,532	2,989	14,543
Oct	81,234	5,623	6,242	19,329	6,710	25,814	17,516	2,990	14,526
Nov p	81,578	5,662	6,270	19,348	6,729	26,008	17,561	2,991	14,570

Note.—Data in Tables B–43 through B–45 are based on reports from employing establishments and relate to full- and part-time wage and salary workers in nonagricultural establishments who received pay for any part of the pay period which includes the 12th of the month. Not comparable with labor force data (Tables B–32 through B–41) which include proprietors, self-employed persons, domestic servants, and unpaid family workers; which count persons as employed when they are not at work because of industrial disputes, bad weather, etc., even if they are not paid for the time off; and which are based on a sample of the working-age population. For description and details of the various establishment data, see "Employment and Earnings."

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–44.—*Average weekly hours and hourly earnings in selected private nonagricultural industries, 1947–88*

[For production or nonsupervisory workers; monthly data seasonally adjusted, except as noted]

Year or month	Average weekly hours				Average hourly earnings				Adjusted hourly earnings, total private nonagricultural[2]			
									Index, 1977=100		Percent change from a year earlier[4]	
	Total private nonagricultural[1]	Manufacturing	Construction	Retail trade	Total private nonagricultural[1]	Manufacturing	Construction	Retail trade	Current dollars	1977 dollars[3]	Current dollars	1977 dollars
1947	40.3	40.4	38.2	40.3	$1.131	$1.216	$1.540	$0.838	21.6	58.5		
1948	40.0	40.0	38.1	40.2	1.225	1.327	1.712	.901	23.4	58.9	8.3	0.7
1949	39.4	39.1	37.7	40.4	1.275	1.376	1.792	.951	24.5	62.3	4.7	5.8
1950	39.8	40.5	37.4	40.4	1.335	1.439	1.863	.983	25.4	64.0	3.7	2.7
1951	39.9	40.6	38.1	40.4	1.45	1.56	2.02	1.06	27.3	63.6	7.5	−.6
1952	39.9	40.7	38.9	39.8	1.52	1.64	2.13	1.09	28.7	65.5	5.1	3.0
1953	39.6	40.5	37.9	39.1	1.61	1.74	2.28	1.16	30.3	68.7	5.6	4.9
1954	39.1	39.6	37.2	39.2	1.65	1.78	2.38	1.20	31.3	70.5	3.3	2.6
1955	39.6	40.7	37.1	39.0	1.71	1.85	2.45	1.25	32.4	73.3	3.5	4.0
1956	39.3	40.4	37.5	38.6	1.80	1.95	2.57	1.30	34.0	75.9	4.9	3.5
1957	38.8	39.8	37.0	38.1	1.89	2.04	2.71	1.37	35.7	76.9	5.0	1.3
1958	38.5	39.2	36.8	38.1	1.95	2.10	2.82	1.42	37.2	78.0	4.2	1.4
1959	39.0	40.3	37.0	38.2	2.02	2.19	2.93	1.47	38.5	80.0	3.5	2.6
1960	38.6	39.7	36.7	38.0	2.09	2.26	3.07	1.52	39.8	81.4	3.4	1.8
1961	38.6	39.8	36.9	37.6	2.14	2.32	3.20	1.56	41.0	83.0	3.0	2.0
1962	38.7	40.4	37.0	37.4	2.22	2.39	3.31	1.63	42.4	85.0	3.4	2.4
1963	38.8	40.5	37.3	37.3	2.28	2.45	3.41	1.68	43.6	86.3	2.8	1.5
1964	38.7	40.7	37.2	37.0	2.36	2.53	3.55	1.75	44.8	87.5	2.8	1.4
1965	38.8	41.2	37.4	36.6	2.46	2.61	3.70	1.82	46.4	89.0	3.6	1.7
1966	38.6	41.4	37.6	35.9	2.56	2.71	3.89	1.91	48.4	90.3	4.3	1.5
1967	38.0	40.6	37.7	35.3	2.68	2.82	4.11	2.01	50.8	92.2	5.0	2.1
1968	37.8	40.7	37.3	34.7	2.85	3.01	4.41	2.16	53.9	94.0	6.1	2.0
1969	37.7	40.6	37.9	34.2	3.04	3.19	4.79	2.30	57.5	95.0	6.7	1.1
1970	37.1	39.8	37.3	33.8	3.23	3.35	5.24	2.44	61.3	95.7	6.6	.7
1971	36.9	39.9	37.2	33.7	3.45	3.57	5.69	2.60	65.7	98.3	7.2	2.7
1972	37.0	40.5	36.5	33.4	3.70	3.82	6.06	2.75	69.8	101.2	6.2	3.0
1973	36.9	40.7	36.8	33.1	3.94	4.09	6.41	2.91	74.1	101.1	6.2	−.1
1974	36.5	40.0	36.6	32.7	4.24	4.42	6.81	3.14	80.0	98.3	8.0	−2.8
1975	36.1	39.5	36.4	32.4	4.53	4.83	7.31	3.36	86.7	97.6	8.4	−.7
1976	36.1	40.1	36.8	32.1	4.86	5.22	7.71	3.57	92.9	99.0	7.2	1.4
1977	36.0	40.3	36.5	31.6	5.25	5.68	8.10	3.85	100.0	100.0	7.6	1.0
1978	35.8	40.4	36.8	31.0	5.69	6.17	8.66	4.20	108.2	100.5	8.2	.5
1979	35.7	40.2	37.0	30.6	6.16	6.70	9.27	4.53	116.8	97.4	7.9	−3.1
1980	35.3	39.7	37.0	30.2	6.66	7.27	9.94	4.88	127.3	93.5	9.0	−4.0
1981	35.2	39.8	36.9	30.1	7.25	7.99	10.82	5.25	138.9	92.6	9.1	−1.0
1982	34.8	38.9	36.7	29.9	7.68	8.49	11.63	5.48	148.5	93.4	6.9	.9
1983	35.0	40.1	37.1	29.8	8.02	8.83	11.94	5.74	155.4	94.8	4.6	1.5
1984	35.2	40.7	37.8	29.8	8.32	9.19	12.13	5.85	160.3	94.6	3.2	−.3
1985	34.9	40.5	37.7	29.4	8.57	9.54	12.32	5.94	165.2	94.1	3.1	−.5
1986	34.8	40.7	37.4	29.2	8.76	9.73	12.48	6.03	169.4	95.0	2.5	1.0
1987	34.8	41.0	37.8	29.2	8.98	9.91	12.69	6.11	173.5	94.0	2.4	−1.1
1987: Jan	34.7	40.9	38.2	29.0	8.86	9.80	12.55	6.05	171.3	94.7	2.3	1.2
Feb	34.8	41.1	38.1	29.3	8.88	9.83	12.55	6.05	171.9	94.7	2.2	.4
Mar	34.8	41.0	37.8	29.3	8.89	9.84	12.66	6.05	172.1	94.4	2.2	−.6
Apr	34.7	40.7	37.5	29.5	8.91	9.86	12.67	6.08	172.5	94.1	2.4	−1.3
May	34.8	41.0	37.9	29.3	8.95	9.88	12.70	6.09	172.9	94.0	2.4	−1.3
June	34.7	41.0	37.7	29.2	8.95	9.89	12.74	6.10	172.9	93.7	2.2	−1.4
July	34.8	41.0	37.7	29.3	8.96	9.88	12.71	6.12	173.2	93.7	2.3	−1.5
Aug	34.8	41.0	37.8	29.4	9.01	9.94	12.72	6.13	174.1	93.8	2.7	−1.6
Sept	34.6	40.6	35.9	29.5	9.02	10.00	12.70	6.18	174.6	93.7	2.8	−1.5
Oct	34.9	41.2	38.2	29.2	9.07	9.99	12.72	6.16	174.9	93.5	2.7	−1.8
Nov	34.8	41.2	37.9	29.2	9.10	10.00	12.81	6.17	175.6	93.8	2.6	−1.9
Dec	34.6	41.0	38.0	28.8	9.11	10.01	12.74	6.19	175.7	93.7	2.7	−1.7
1988: Jan	34.7	41.1	36.9	29.0	9.14	10.02	12.91	6.20	176.6	93.8	3.1	−1.0
Feb	34.8	41.0	37.3	29.1	9.13	10.03	12.82	6.20	176.7	93.7	2.8	−1.0
Mar	34.6	40.9	37.8	29.0	9.16	10.05	12.90	6.22	177.0	93.5	2.9	−.9
Apr	34.9	41.2	38.0	29.2	9.23	10.11	12.93	6.25	178.0	93.6	3.2	−.6
May	34.7	41.0	37.6	29.0	9.27	10.15	12.91	6.28	178.7	93.6	3.4	−.5
June	34.7	41.1	38.3	29.1	9.27	10.18	12.93	6.29	178.6	93.2	3.3	−.6
July	34.9	41.1	37.7	29.3	9.32	10.17	13.03	6.33	179.3	93.2	3.5	−.5
Aug	34.6	41.0	37.7	29.0	9.32	10.20	12.99	6.32	179.5	92.9	3.1	−.9
Sept	34.7	41.2	37.8	28.9	9.37	10.26	13.04	6.34	180.3	93.0	3.3	−.8
Oct	34.9	41.2	38.3	29.2	9.43	10.28	13.04	6.38	181.5	93.1	3.8	−.4
Nov P	34.7	41.2	38.4	29.0	9.42	10.29	13.04	6.43	181.5	93.0	3.3	−.9

[1] Also includes other private industry groups shown in Table B–43.
[2] Adjusted for overtime (in manufacturing only) and for interindustry employment shifts.
[3] Current-dollar index divided by the consumer price index for urban wage earners and clerical workers on a 1977=100 base.
[4] Monthly percent changes are computed from indexes to two decimal places and are based on data not seasonally adjusted.

Note.—See Note, Table B–43.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–45.—*Average weekly earnings in selected private nonagricultural industries, 1947–88*

[For production or nonsupervisory workers; monthly data seasonally adjusted, except as noted]

Year or month	Average weekly earnings					Percent change from a year earlier, total private nonagricultural[3]	
	Total private nonagricultural[1]		Manufacturing (current dollars)	Construction (current dollars)	Retail trade (current dollars)		
	Current dollars	1977 dollars[2]				Current dollars	1977 dollars
1947	$45.58	$123.52	$49.13	$58.83	$33.77		
1948	49.00	123.43	53.08	65.23	36.22	7.5	−0.1
1949	50.24	127.84	53.80	67.56	38.42	2.5	3.6
1950	53.13	133.83	58.28	69.68	39.71	5.8	4.7
1951	57.86	134.87	63.34	76.96	42.82	8.9	.8
1952	60.65	138.47	66.75	82.86	43.38	4.8	2.7
1953	63.76	144.58	70.47	86.41	45.36	5.1	4.4
1954	64.52	145.32	70.49	88.54	47.04	1.2	.5
1955	67.72	153.21	75.30	90.90	48.75	5.0	5.4
1956	70.74	157.90	78.78	96.38	50.18	4.5	3.1
1957	73.33	158.04	81.19	100.27	52.20	3.7	.1
1958	75.08	157.40	82.32	103.78	54.10	2.4	−.4
1959	78.78	163.78	88.26	108.41	56.15	4.9	4.1
1960	80.67	164.97	89.72	112.67	57.76	2.4	.7
1961	82.60	167.21	92.34	118.08	58.66	2.4	1.4
1962	85.91	172.16	96.56	122.47	60.96	4.0	3.0
1963	88.46	175.17	99.23	127.19	62.66	3.0	1.7
1964	91.33	178.38	102.97	132.06	64.75	3.2	1.8
1965	95.45	183.21	107.53	138.38	66.61	4.5	2.7
1966	98.82	184.37	112.19	146.26	68.57	3.5	.6
1967	101.84	184.83	114.49	154.95	70.95	3.1	.2
1968	107.73	187.68	122.51	164.49	74.95	5.8	1.5
1969	114.61	189.44	129.51	181.54	78.66	6.4	.9
1970	119.83	186.94	133.33	195.45	82.47	4.6	−1.3
1971	127.31	190.58	142.44	211.67	87.62	6.2	1.9
1972	136.90	198.41	154.71	221.19	91.85	7.5	4.1
1973	145.39	198.35	166.46	235.89	96.32	6.2	−.0
1974	154.76	190.12	176.80	249.25	102.68	6.4	−4.1
1975	163.53	184.16	190.79	266.08	108.86	5.7	−3.1
1976	175.45	186.85	209.32	283.73	114.60	7.3	1.5
1977	189.00	189.00	228.90	295.65	121.66	7.7	1.2
1978	203.70	189.31	249.27	318.69	130.20	7.8	.2
1979	219.91	183.41	269.34	342.99	138.62	8.0	−3.1
1980	235.10	172.74	288.62	367.78	147.38	6.9	−5.8
1981	255.20	170.13	318.00	399.26	158.03	8.5	−1.5
1982	267.26	168.09	330.26	426.82	163.85	4.7	−1.2
1983	280.70	171.26	354.08	442.97	171.05	5.0	1.9
1984	292.86	172.78	374.03	458.51	174.33	4.3	.9
1985	299.09	170.42	386.37	464.46	174.64	2.1	−1.4
1986	304.85	171.07	396.01	466.75	176.08	1.9	.4
1987	312.50	169.28	406.31	479.68	178.41	2.5	−1.0
1987: Jan.	307.44	169.95	400.82	479.41	175.45	1.2	.1
Feb	309.02	170.26	404.01	478.16	177.27	2.4	.5
Mar	309.37	169.70	403.44	478.55	177.27	1.7	−1.1
Apr.	309.18	168.67	401.30	475.13	179.36	1.9	−1.8
May	311.46	169.36	405.08	481.33	178.44	2.7	−1.0
June	310.57	168.33	405.49	480.30	178.12	2.5	−1.1
July	311.81	168.64	405.08	479.17	179.32	2.6	−1.3
Aug.	313.55	168.85	407.54	480.82	180.22	3.1	−1.2
Sept.	312.09	167.52	406.00	455.93	182.31	2.4	−1.8
Oct.	316.54	169.27	411.59	485.90	179.87	3.5	−1.0
Nov.	316.68	169.08	412.00	485.50	180.16	3.2	−1.3
Dec.	315.21	168.02	410.41	484.12	178.27	3.0	−1.4
1988: Jan.	317.16	168.43	411.82	476.38	179.80	3.1	−.9
Feb	317.72	168.46	411.23	478.19	180.42	2.8	−1.0
Mar	316.94	167.43	411.05	487.62	180.38	2.4	−1.3
Apr.	322.13	169.36	416.53	491.34	182.50	4.2	.4
May	321.67	168.41	416.15	485.42	182.12	3.1	−.7
June	321.67	167.89	418.40	495.22	183.04	3.3	−.5
July	325.27	169.06	417.99	491.23	185.47	4.2	.2
Aug.	322.47	166.82	418.20	489.72	183.28	2.8	−1.2
Sept.	325.14	167.68	422.71	492.91	183.23	4.2	−.0
Oct.	329.11	168.86	423.54	499.43	186.30	4.1	−.1
Nov.[p]	326.87	167.45	423.95	500.74	186.47	3.2	−1.0

[1] Also includes other private industry groups shown in Table B–43.
[2] Earnings in current dollars divided by the consumer price index for urban wage earners and clerical workers on a 1977=100 base.
[3] Based on data not seasonally adjusted.

Note.—See Note, Table B–43.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–46.—*Productivity and related data, business sector, 1947–88*

[1977=100; quarterly data seasonally adjusted]

Year or quarter	Output per hour of all persons		Output [1]		Hours of all persons [2]		Compensation per hour [3]		Real compensation per hour [4]		Unit labor costs		Implicit price deflator [5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1947	44.9	51.4	36.2	35.2	80.6	68.6	16.6	18.0	45.2	49.0	37.0	35.1	35.5	34.0
1948	47.2	53.3	38.3	37.2	81.2	69.8	18.1	19.6	45.4	49.2	38.3	36.7	38.0	36.4
1949	47.7	54.2	37.4	36.4	78.5	67.0	18.4	20.2	46.8	51.4	38.5	37.2	37.8	36.9
1950	51.7	57.7	41.0	39.9	79.3	69.1	19.7	21.4	49.6	53.8	38.1	37.1	38.4	37.5
1951	53.8	59.4	43.9	43.0	81.6	72.3	21.6	23.3	50.5	54.3	40.3	39.2	40.8	39.6
1952	55.4	60.7	45.3	44.4	81.7	73.0	23.0	24.6	52.6	56.2	41.5	40.5	41.4	40.4
1953	57.5	62.1	47.4	46.4	82.5	74.8	24.6	26.0	55.7	59.0	42.7	41.9	41.7	41.1
1954	58.4	63.0	46.5	45.5	79.7	72.2	25.3	26.8	57.1	60.4	43.4	42.6	42.2	41.8
1955	60.1	64.8	49.7	48.7	82.7	75.1	26.0	27.8	58.8	62.9	43.2	42.9	43.2	43.1
1956	60.9	65.2	51.1	50.2	83.9	77.0	27.7	29.5	61.8	65.8	45.5	45.3	44.6	44.5
1957	62.5	66.5	51.7	50.9	82.7	76.6	29.5	31.2	63.7	67.3	47.2	47.0	46.2	46.1
1958	64.4	68.0	50.7	49.8	78.8	73.3	30.9	32.5	64.8	68.1	48.0	47.7	46.9	46.6
1959	66.5	70.2	54.4	53.7	81.8	76.4	32.2	33.8	67.2	70.4	48.5	48.2	47.8	47.8
1960	67.6	71.0	55.4	54.6	81.9	76.9	33.6	35.3	68.9	72.3	49.7	49.7	48.5	48.5
1961	70.0	73.2	56.5	55.7	80.7	76.0	34.9	36.5	70.8	73.9	49.9	49.8	48.8	48.8
1962	72.5	75.6	59.4	58.7	81.9	77.6	36.6	38.0	73.4	76.2	50.4	50.2	49.7	49.7
1963	75.4	78.3	62.1	61.5	82.4	78.5	37.9	39.3	75.1	77.8	50.3	50.2	50.2	50.2
1964	78.7	81.4	65.9	65.4	83.7	80.3	39.9	41.1	78.0	80.4	50.7	50.5	50.7	50.8
1965	81.0	83.4	70.0	69.5	86.4	83.3	41.5	42.5	79.8	81.8	51.2	50.9	51.9	51.9
1966	83.2	85.2	73.6	73.4	88.5	86.2	44.3	45.0	82.9	84.2	53.3	52.8	53.6	53.5
1967	85.5	87.1	75.6	75.3	88.5	86.4	46.7	47.5	84.8	86.2	54.7	54.5	54.9	55.0
1968	87.8	89.4	78.9	78.8	89.9	88.1	50.4	51.1	87.8	89.0	57.4	57.1	57.5	57.5
1969	87.8	89.0	81.1	80.9	92.3	90.9	53.9	54.4	89.0	89.9	61.4	61.2	60.4	60.4
1970	88.4	89.3	80.3	80.0	90.8	89.7	57.8	58.2	90.3	90.9	65.4	65.2	63.2	63.4
1971	91.3	91.9	82.5	82.2	90.4	89.4	61.6	62.0	92.1	92.8	67.4	67.4	66.4	66.6
1972	94.1	94.7	87.7	87.5	93.2	92.3	65.5	66.0	94.9	95.7	69.6	69.7	69.0	69.0
1973	95.9	96.4	92.9	92.9	96.8	96.3	70.9	71.2	96.8	97.2	73.9	73.9	73.4	72.3
1974	93.9	94.3	91.3	91.2	97.3	96.7	77.6	78.0	95.4	95.9	82.7	82.7	80.5	79.7
1975	95.7	96.0	89.4	89.1	93.4	92.8	85.2	85.6	96.0	96.4	89.0	89.2	88.7	88.3
1976	98.3	98.5	94.5	94.4	96.1	95.9	92.8	92.8	98.8	98.9	94.3	94.3	94.0	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.8	100.8	105.8	106.0	104.9	105.1	108.5	108.6	100.9	100.9	107.6	107.7	107.3	107.0
1979	99.6	99.3	107.9	107.9	108.3	108.7	119.1	118.9	99.4	99.2	119.5	119.7	117.0	116.5
1980	99.3	98.8	106.7	106.7	107.5	108.0	131.5	131.3	96.7	96.6	132.5	132.9	127.6	127.8
1981	100.7	99.8	108.9	108.5	108.2	108.7	143.7	143.6	95.8	95.8	142.7	144.0	139.8	140.3
1982	100.3	99.2	105.5	104.9	105.2	105.7	154.9	154.8	97.3	97.2	154.5	156.0	148.1	149.2
1983	103.0	102.5	109.9	110.1	106.8	107.5	161.4	161.5	98.2	98.3	156.7	157.6	153.0	154.3
1984	105.5	104.6	119.2	119.2	112.9	114.0	167.9	167.8	97.9	97.9	159.1	160.4	158.2	159.0
1985	107.7	106.1	124.2	123.9	115.3	116.8	175.5	174.9	98.8	98.5	162.9	164.9	162.2	163.8
1986	110.1	108.2	128.6	128.2	116.8	118.5	183.1	182.3	101.2	100.8	166.3	168.6	165.8	167.8
1987	111.0	109.0	133.3	133.0	120.1	122.1	190.4	189.4	101.5	101.0	171.5	173.8	170.5	172.5
1982: IV	101.0	99.7	105.0	104.2	103.9	104.5	158.3	158.2	98.0	97.9	156.8	158.7	150.2	151.4
1983: IV	103.8	103.3	113.6	114.1	109.4	110.4	163.6	163.4	98.1	97.9	157.6	158.2	155.2	156.2
1984: IV	105.9	104.9	120.8	120.7	114.0	115.1	170.3	170.2	98.1	98.1	160.7	162.3	159.8	161.0
1985: IV	108.5	106.5	125.9	125.5	116.1	117.9	178.8	177.9	99.4	99.0	164.8	167.1	163.7	165.5
1986: I	110.5	108.6	128.4	128.1	116.2	117.9	180.4	179.8	100.0	99.6	163.3	165.5	163.7	165.7
II	110.4	108.4	128.2	127.8	116.1	117.9	182.0	181.2	101.2	100.7	164.9	167.1	165.0	167.0
III	110.0	108.0	128.5	128.1	116.8	118.6	184.0	183.1	101.7	101.2	167.3	169.5	167.0	169.0
IV	109.8	107.8	129.3	128.8	117.8	119.5	186.2	185.4	102.2	101.8	169.6	172.1	167.5	169.5
1987: I	109.9	107.8	130.5	130.1	118.8	120.7	187.3	186.4	101.5	101.0	170.5	172.9	168.7	170.9
II	110.6	108.6	132.2	131.9	119.5	121.5	189.0	187.9	101.2	100.6	170.8	173.0	170.1	171.9
III	111.7	109.6	134.3	134.1	120.3	122.3	191.1	190.0	101.4	100.8	171.1	173.3	171.2	173.2
IV	111.8	109.9	136.2	136.0	121.8	123.8	194.0	192.9	102.0	101.4	173.5	175.6	171.9	174.0
1988: I	112.8	110.8	138.0	137.9	122.3	124.4	195.8	194.6	102.1	101.5	173.5	175.7	172.3	174.2
II	111.8	110.1	138.8	139.2	124.1	126.4	198.1	196.6	102.1	101.3	177.1	178.6	174.7	176.2
III	112.2	110.6	139.7	140.4	124.5	126.9	201.0	199.4	102.4	101.5	179.1	180.2	176.7	177.9

[1] Output refers to gross domestic product originating in the sector in 1982 dollars.
[2] Hours of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.
[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.
[4] Hourly compensation divided by the consumer price index for all urban consumers.
[5] Current dollar gross domestic product divided by constant dollar gross domestic product.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–47.—*Changes in productivity and related data, business sector, 1948–88*

[Percent change from preceding period; quarterly data at seasonally adjusted annual rates]

Year or quarter	Output per hour of all persons		Output [1]		Hours of all persons [2]		Compensation per hour [3]		Real compensation per hour [4]		Unit labor costs		Implicit price deflator [5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1948	5.0	3.8	5.9	5.6	0.8	1.7	8.5	8.5	0.4	0.4	3.3	4.6	7.2	7.2
1949	1.1	1.7	−2.3	−2.3	−3.4	−3.9	1.7	3.0	3.0	4.3	.6	1.3	−.6	1.3
1950	8.3	6.4	9.5	9.7	1.1	3.0	7.3	6.1	6.0	4.8	−.9	−.3	1.5	1.8
1951	4.0	3.0	7.1	7.7	2.9	4.6	9.8	8.7	1.8	.8	5.6	5.6	6.3	5.6
1952	3.1	2.2	3.2	3.2	.1	1.0	6.3	5.6	4.3	3.6	3.1	3.3	1.3	2.0
1953	3.6	2.2	4.6	4.6	.9	2.4	6.7	5.7	5.9	4.9	3.0	3.5	.7	1.8
1954	1.6	1.5	−1.8	−2.0	−3.4	−3.4	3.2	3.3	2.5	2.5	1.6	1.8	1.2	1.5
1955	3.0	2.9	6.9	7.1	3.7	4.0	2.5	3.6	2.9	4.0	−.5	.7	2.6	3.2
1956	1.3	.6	2.8	3.1	1.5	2.5	6.7	6.2	5.1	4.6	5.3	5.5	3.2	3.3
1957	2.6	1.9	1.1	1.3	−1.5	−.6	6.5	5.7	3.1	2.4	3.8	3.8	3.5	3.6
1958	3.0	2.4	−1.8	−2.0	−4.7	−4.3	4.6	4.1	1.7	1.2	1.6	1.6	1.6	1.2
1959	3.3	3.2	7.3	7.7	3.8	4.3	4.4	4.1	3.6	3.4	1.0	.9	2.0	2.5
1960	1.7	1.1	1.8	1.7	.1	.6	4.3	4.4	2.5	2.6	2.6	3.3	1.4	1.4
1961	3.5	3.1	1.9	2.0	−1.6	−1.1	3.9	3.3	2.8	2.2	.3	.1	.5	.6
1962	3.6	3.3	5.2	5.5	1.6	2.1	4.7	4.1	3.6	3.1	1.1	.8	1.9	2.0
1963	4.0	3.6	4.6	4.7	.6	1.1	3.8	3.5	2.4	2.2	−.2	−.1	.9	.9
1964	4.3	3.9	6.0	6.3	1.6	2.3	5.2	4.6	3.9	3.3	.8	.7	1.0	1.2
1965	3.0	2.5	6.3	6.4	3.2	3.8	3.8	3.4	2.2	1.7	.9	.8	2.3	2.0
1966	2.8	2.1	5.2	5.6	2.4	3.4	6.9	5.9	4.0	3.0	4.1	3.7	3.3	3.1
1967	2.7	2.3	2.7	2.5	−.0	.3	5.4	5.5	2.2	2.3	2.6	3.2	2.5	2.9
1968	2.7	2.6	4.4	4.7	1.7	2.0	7.9	7.6	3.5	3.2	5.0	4.8	4.6	4.6
1969	.1	−.5	2.7	2.7	2.6	3.2	7.0	6.6	1.5	1.0	6.9	7.1	5.1	5.0
1970	.7	.3	−.9	−1.1	−1.6	−1.3	7.3	7.0	1.5	1.2	6.5	6.7	4.7	4.9
1971	3.2	3.0	2.7	2.7	−.5	−.3	6.4	6.5	2.0	2.0	3.1	3.4	4.9	5.0
1972	3.0	3.1	6.3	6.4	3.1	3.3	6.4	6.5	3.1	3.2	3.3	3.4	4.0	3.6
1973	2.0	1.8	6.0	6.2	3.9	4.3	8.3	7.9	1.9	1.6	6.2	6.0	6.4	4.8
1974	−2.1	−2.2	−1.8	−1.8	.4	.4	9.5	9.6	−1.4	−1.3	11.9	12.0	9.6	10.2
1975	2.0	1.8	−2.1	−2.3	−4.0	−4.0	9.7	9.7	.6	.5	7.6	7.8	10.3	10.8
1976	2.8	2.6	5.8	6.0	2.9	3.4	8.9	8.4	2.9	2.5	5.9	5.7	5.9	6.3
1977	1.7	1.6	5.8	5.9	4.0	4.3	7.8	7.7	1.2	1.2	6.0	6.1	6.4	6.6
1978	.8	.8	5.8	6.0	4.9	5.1	8.5	8.6	.9	.9	7.6	7.7	7.3	7.0
1979	−1.2	−1.6	2.0	1.9	3.2	3.5	9.7	9.5	−1.5	−1.7	11.1	11.2	9.0	8.9
1980	−.3	−.4	−1.1	−1.2	−.8	−.7	10.5	10.5	−2.7	−2.7	10.9	11.0	9.0	9.7
1981	1.4	1.0	2.1	1.7	.7	.7	9.2	9.4	−1.0	−.8	7.7	8.3	9.6	9.7
1982	−.4	−.6	−3.1	−3.3	−2.8	−2.7	7.8	7.8	1.6	1.5	8.3	8.4	5.9	6.3
1983	2.7	3.3	4.2	5.0	1.5	1.6	4.2	4.3	.9	1.1	1.4	1.0	3.3	3.5
1984	2.5	2.1	8.4	8.3	5.7	6.0	4.1	3.9	−.2	−.4	1.5	1.8	3.3	3.0
1985	2.1	1.4	4.2	3.9	2.1	2.5	4.5	4.2	.9	.6	2.4	2.8	2.5	3.0
1986	2.2	2.0	3.5	3.5	1.3	1.5	4.3	4.2	2.4	2.3	2.1	2.2	2.3	2.4
1987	.8	.8	3.6	3.8	2.8	3.0	4.0	3.8	.3	.2	3.1	3.1	2.8	2.8
1982: IV	3.0	2.4	−.5	−1.2	−3.4	−3.5	4.5	5.0	3.2	3.8	1.5	2.6	2.4	3.0
1983: IV	3.1	1.4	10.4	9.8	7.1	8.2	5.5	4.3	1.4	.2	2.3	2.8	4.8	3.1
1984: IV	1.7	1.2	3.5	3.1	1.8	1.9	3.8	3.9	.6	.7	2.1	2.7	2.7	3.3
1985: IV	.7	.2	3.6	3.5	2.9	3.4	5.4	5.1	1.3	1.0	4.7	4.9	2.6	2.1
1986: I	7.7	8.4	8.3	8.5	.6	.0	3.7	4.3	2.1	2.7	−3.7	−3.8	.1	.4
II	−.4	−.8	−.8	−.8	−.4	−.0	3.7	3.2	5.1	4.6	4.1	4.0	3.2	3.0
III	−1.4	−1.5	.9	.8	2.3	2.4	4.4	4.3	2.0	1.9	5.8	5.9	5.0	5.1
IV	−.8	−.9	2.5	2.4	3.4	3.3	4.8	5.1	2.1	2.3	5.7	6.1	1.1	1.2
1987: I	.3	.0	3.7	4.0	3.4	4.0	2.5	2.1	−2.8	−3.2	2.2	2.1	3.0	3.3
II	2.7	3.2	5.3	5.7	2.5	2.5	3.6	3.4	−1.2	−1.4	.8	.2	3.2	2.3
III	3.9	3.7	6.6	6.8	2.6	2.9	4.6	4.5	.8	.6	.7	.7	2.8	3.1
IV	.6	.9	5.7	5.9	5.1	4.9	6.2	6.4	2.4	2.6	5.6	5.4	1.4	1.8
1988: I	3.5	3.4	5.5	5.6	1.9	2.1	3.7	3.5	.3	.1	.2	.1	1.0	.6
II	−3.4	−2.4	2.4	4.0	6.0	6.6	4.8	4.2	.0	−.5	8.5	6.8	5.8	4.7
III	1.5	1.9	2.6	3.4	1.1	1.5	6.1	5.6	1.3	.8	4.5	3.7	4.5	3.8

[1] Output refers to gross domestic product originating in the sector in 1982 dollars.
[2] Hours of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.
[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.
[4] Hourly compensation divided by the consumer price index for all urban consumers.
[5] Current dollar gross domestic product divided by constant dollar gross domestic product.

Note.—Percent changes are based on original data and therefore may differ slightly from percent changes based on indexes in Table B–45.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–48.—*Industrial production indexes, major industry divisions, 1939–88*

[1977=100; monthly data seasonally adjusted]

Year or month	Total industrial production	Manufacturing			Mining	Utilities
		Total	Durable	Nondurable		
1977 proportion	100.00	84.21	49.10	35.11	9.83	5.96
1939	16.0	15.8	13.6	17.9	37.6	6.9
1940	18.4	18.6	18.1	18.8	41.8	7.6
1941	23.3	23.8	24.2	22.7	44.4	8.6
1942	26.7	27.7	30.7	23.7	45.7	9.7
1943	32.4	34.5	41.8	25.4	46.8	10.7
1944	34.9	37.3	46.1	26.4	50.2	11.4
1945	29.9	31.2	34.9	26.3	49.2	11.6
1946	25.8	25.9	24.4	27.1	48.3	12.0
1947	29.0	28.9	29.0	28.2	54.6	13.0
1948	30.2	30.0	30.3	29.2	57.4	14.5
1949	28.6	28.3	27.5	28.7	50.9	15.5
1950	33.1	33.0	33.5	31.9	56.9	17.6
1951	35.9	35.6	37.7	33.0	62.4	20.1
1952	37.2	37.1	40.0	33.6	61.9	21.8
1953	40.4	40.4	45.2	35.0	63.5	23.6
1954	38.2	37.8	39.9	35.2	62.3	25.4
1955	43.0	42.6	45.6	39.1	69.5	28.4
1956	44.9	44.4	47.1	41.1	73.1	31.2
1957	45.5	44.9	47.4	41.8	73.2	33.3
1958	42.6	41.7	41.5	42.1	67.1	34.9
1959	47.7	47.0	47.7	46.3	70.2	38.4
1960	48.8	48.0	48.5	47.4	71.6	41.1
1961	49.1	48.1	47.6	48.8	72.1	43.4
1962	53.2	52.4	52.8	51.8	74.1	46.6
1963	56.3	55.5	56.3	54.6	77.1	49.8
1964	60.1	59.3	60.3	58.2	80.2	54.1
1965	66.1	65.7	68.6	62.1	83.1	57.4
1966	72.0	71.7	76.2	66.0	87.6	61.8
1967	73.5	73.1	77.0	68.1	89.3	64.9
1968	77.6	77.2	80.8	72.5	92.7	70.2
1969	81.2	80.6	84.0	76.3	96.4	76.4
1970	78.5	77.0	77.6	76.3	98.9	81.1
1971	79.6	78.2	77.3	79.4	96.4	85.0
1972	87.3	86.4	86.3	86.5	98.4	90.4
1973	94.4	94.0	96.3	90.8	99.3	94.0
1974	93.0	92.6	94.3	90.2	98.8	92.8
1975	84.8	83.4	82.6	*84.5	96.6	93.7
1976	92.6	91.9	91.1	93.1	97.4	97.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.5	107.1	108.2	105.5	103.6	103.1
1979	110.7	111.5	113.9	108.2	106.4	105.9
1980	108.6	108.2	109.1	107.0	112.4	107.3
1981	111.0	110.5	111.1	109.7	117.5	107.1
1982	103.1	102.2	99.9	105.5	109.3	104.8
1983	109.2	110.2	107.7	113.7	102.9	105.2
1984	121.4	123.4	124.2	122.3	111.1	110.7
1985	123.7	126.4	127.6	124.6	108.9	111.1
1986	125.1	129.1	128.4	130.1	100.4	108.5
1987	129.8	134.7	133.1	136.8	100.7	110.3
1987: Jan	126.2	130.7	129.3	132.7	99.4	108.0
Feb	127.1	131.6	130.8	132.9	98.8	108.5
Mar	127.4	132.4	131.5	133.7	98.3	107.9
Apr	127.4	132.4	130.9	134.6	98.6	106.0
May	128.2	133.2	131.4	135.7	99.2	109.6
June	129.1	134.0	132.0	136.9	99.2	109.4
July	130.6	135.6	133.5	138.5	99.2	111.2
Aug	131.2	135.9	133.8	138.8	100.9	112.9
Sept	131.0	135.7	133.7	138.6	101.9	111.2
Oct	132.5	137.3	136.8	138.1	103.6	112.1
Nov	133.2	137.9	136.7	139.6	104.6	113.2
Dec	133.9	138.9	137.3	141.3	104.6	111.7
1988: Jan	134.4	139.4	137.9	141.4	103.3	115.2
Feb	134.4	139.5	138.4	141.1	101.5	115.6
Mar	134.7	140.0	138.8	141.7	102.7	113.3
Apr	135.4	140.8	139.7	142.3	104.7	111.0
May	136.1	141.8	141.5	142.1	102.6	111.6
June	136.5	142.1	141.7	142.6	103.0	113.2
July	138.0	143.6	142.9	144.6	104.3	114.4
Aug	138.5	144.0	143.2	145.1	103.8	117.8
Sept	138.6	144.4	143.8	145.3	103.5	112.8
Oct p	139.3	145.3	144.7	146.2	102.6	113.5
Nov p	139.9	146.0	145.4	146.8	103.2	114.0

Source: Board of Governors of the Federal Reserve System.

TABLE B–49.—*Industrial production indexes, market groupings, 1947–88*

[1977=100; monthly data seasonally adjusted]

Year or month	Total industrial production	Final products							Intermediate products	Materials		
		Total	Consumer goods			Equipment				Total[3]	Durable goods	Nondurable goods
			Total[1]	Automotive products	Home goods	Total[2]	Business	Defense and space				
1977 proportion	100.00	44.77	25.52	2.98	3.91	19.25	14.34	3.67	12.94	42.28	20.50	10.09
1947	29.0	29.0	29.9	25.8	26.1	25.5	25.9	15.2	29.9	28.8	28.5	.....
1948	30.2	30.1	30.8	27.0	27.2	26.8	27.0	17.8	31.6	30.0	29.3	.....
1949	28.6	29.1	30.6	26.7	25.2	24.0	23.6	18.6	29.9	27.3	26.3	.....
1950	33.1	32.9	35.0	33.6	34.7	26.0	25.2	21.9	34.8	32.7	33.1	.....
1951	35.9	35.5	34.6	29.8	29.9	36.1	30.8	53.8	36.5	36.2	37.6	.....
1952	37.2	38.1	35.4	26.8	29.9	43.3	34.9	75.7	36.3	36.7	38.4	.....
1953	40.4	40.7	37.5	33.9	33.9	47.0	36.3	90.6	38.8	40.8	44.9	.....
1954	38.2	38.5	37.3	31.5	31.3	41.1	31.9	79.8	38.7	37.7	38.7	29.1
1955	43.0	41.6	41.6	41.9	36.9	42.0	34.6	73.1	43.9	44.6	47.4	33.3
1956	44.9	44.1	43.1	34.5	38.8	46.1	40.1	71.4	45.9	45.7	47.6	34.8
1957	45.5	45.4	44.2	36.1	38.0	48.0	41.7	74.6	45.9	45.7	47.5	34.7
1958	42.6	43.3	43.8	28.7	35.8	42.9	35.2	74.9	44.9	41.1	40.0	34.5
1959	47.7	47.5	48.0	36.0	41.1	47.2	39.5	78.9	49.6	47.4	47.7	39.4
1960	48.8	49.1	49.8	41.2	41.4	48.4	40.6	81.1	49.9	48.1	48.3	40.1
1961	49.1	49.5	50.9	37.6	42.7	47.8	39.4	82.4	50.9	48.1	47.1	41.7
1962	53.2	53.7	54.3	45.6	46.4	53.2	42.8	95.4	54.0	52.4	52.4	45.2
1963	56.3	56.7	57.3	49.9	50.0	56.3	44.9	102.9	57.0	55.8	55.9	47.9
1964	60.1	59.9	60.5	52.3	54.6	59.6	50.3	99.6	60.7	60.3	60.9	52.1
1965	66.1	65.8	65.3	64.4	61.9	67.3	57.6	110.3	64.6	67.2	69.8	57.2
1966	72.0	72.1	68.6	64.2	68.2	78.4	66.7	129.6	68.6	73.2	76.9	61.8
1967	73.5	75.0	70.3	56.4	69.1	83.4	68.0	147.8	71.4	72.5	74.2	62.9
1968	77.6	78.6	74.5	67.2	74.0	85.8	71.0	148.1	75.5	77.3	78.6	69.1
1969	81.2	81.1	77.3	67.5	78.9	88.1	75.6	141.0	79.6	81.9	82.7	74.8
1970	78.5	78.2	76.4	56.8	76.5	81.8	72.9	119.4	78.4	79.0	75.1	75.2
1971	79.6	78.9	80.8	72.4	81.0	76.6	69.3	107.3	80.8	80.2	75.4	78.4
1972	87.3	85.6	87.3	78.1	92.7	83.8	79.0	104.3	90.2	88.4	85.2	86.4
1973	94.4	92.0	91.2	86.2	98.1	93.6	92.4	101.9	96.0	96.8	97.4	92.7
1974	93.0	91.7	88.4	74.5	90.7	96.6	96.5	100.4	92.6	94.8	94.6	93.2
1975	84.8	86.3	84.9	70.2	79.9	88.5	86.1	98.5	83.6	83.2	78.8	82.9
1976	92.6	92.4	93.3	87.1	89.5	91.5	89.3	100.1	92.1	93.0	90.8	93.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.5	106.9	104.3	102.4	104.7	110.3	112.2	101.2	106.9	105.9	108.8	105.6
1979	110.7	111.0	103.9	94.9	103.7	120.4	124.7	105.6	110.8	110.3	114.4	109.3
1980	108.6	112.2	102.7	76.1	97.7	124.7	125.1	115.4	106.9	105.3	106.1	103.4
1981	111.0	115.2	104.1	78.8	98.1	129.9	127.6	119.8	107.3	107.7	109.7	107.1
1982	103.1	109.5	101.4	78.1	86.5	120.2	113.6	133.0	101.7	96.7	94.2	96.6
1983	109.2	114.7	109.3	95.1	101.1	121.7	115.4	143.1	111.2	102.8	103.7	106.2
1984	121.4	127.3	118.0	109.4	114.3	139.6	134.2	156.4	124.7	114.2	121.5	111.4
1985	123.7	131.0	119.8	114.1	111.2	145.8	140.2	171.4	129.3	114.3	121.7	112.1
1986	125.1	132.5	124.0	115.3	115.8	143.6	139.5	182.0	136.2	113.8	120.0	117.5
1987	129.8	136.8	127.8	118.5	121.6	148.9	144.5	188.9	143.4	118.2	125.0	125.9
1987: Jan	126.2	133.3	125.5	116.6	120.5	143.5	138.6	187.3	138.8	114.9	120.5	121.4
Feb	127.1	134.8	126.4	122.6	119.8	146.0	141.7	188.9	139.9	114.9	121.3	120.8
Mar	127.4	135.1	126.7	121.6	118.4	146.2	141.9	188.6	140.9	115.2	122.3	121.5
Apr	127.4	134.5	125.5	115.0	118.1	146.4	142.1	189.2	140.3	115.9	122.2	124.1
May	128.2	135.5	127.3	118.8	121.2	146.3	141.7	189.3	141.8	116.3	122.6	123.9
June	129.1	136.2	127.2	114.9	119.3	148.1	144.2	188.6	143.3	117.2	124.0	124.1
July	130.6	137.9	128.9	117.5	122.5	149.7	145.6	188.7	145.0	118.5	125.2	127.6
Aug	131.2	138.4	129.4	118.0	123.6	150.2	145.6	189.1	145.3	119.4	125.5	128.3
Sept	131.0	137.8	127.7	114.2	121.9	151.2	146.3	189.8	144.9	119.7	126.4	128.6
Oct	132.5	139.3	129.0	124.3	124.3	153.0	148.7	190.3	146.1	121.2	128.7	128.2
Nov	133.2	139.2	129.4	121.3	125.8	152.2	148.3	188.7	147.3	122.5	130.2	129.6
Dec	133.9	139.8	129.8	115.4	123.9	153.1	149.8	188.9	146.5	123.7	132.0	132.5
1988: Jan	134.4	141.1	131.2	118.7	124.0	154.3	151.2	190.6	148.1	123.0	131.8	129.9
Feb	134.4	141.6	131.3	117.6	122.8	155.3	152.4	191.0	149.4	122.1	131.4	128.1
Mar	134.7	141.8	131.2	120.6	120.2	155.9	153.3	189.9	149.9	122.5	131.3	130.1
Apr	135.4	142.5	131.9	121.9	124.3	156.5	154.6	187.9	149.6	123.6	132.7	131.1
May	136.1	143.5	132.7	127.1	124.4	157.7	156.9	185.5	150.4	123.9	134.8	130.1
June	136.5	144.0	133.0	127.1	123.9	158.5	158.1	184.6	150.0	124.5	134.9	130.1
July	138.0	145.0	134.2	124.4	125.9	159.4	159.3	184.9	151.6	126.4	136.8	132.8
Aug	138.5	145.8	135.0	124.2	126.8	160.1	160.2	184.9	152.3	126.5	136.6	133.1
Sept	138.6	145.8	134.8	126.3	126.3	160.4	160.8	184.6	153.1	126.5	137.9	132.6
Oct p	139.6	146.7	136.4	128.6	129.4	160.2	160.7	184.4	153.8	127.1	138.8	133.8
Nov p	139.9	146.9	136.8	129.8	128.2	160.4	161.3	184.3	154.8	128.0	139.7	134.8

[1] Includes clothing and consumer staples, not shown separately.
[2] Two components—oil and gas well drilling and manufactured homes—are included in total equipment, but not in detail shown.
[3] Includes energy materials, not shown separately.

Source: Board of Governors of the Federal Reserve System.

TABLE B–50.—*Industrial production indexes, selected manufactures, 1947–88*

[1977=100; monthly data seasonally adjusted]

Year or month	Durable manufactures								Nondurable manufactures				
	Primary metals		Fabricated metal products	Nonelectrical machinery	Electrical machinery	Transportation equipment		Lumber and products	Apparel products	Textile mill products	Printing and publishing	Chemicals and products	Foods
	Total	Iron and steel				Total	Motor vehicles and parts						
1977 proportion	5.33	3.49	6.46	9.54	7.15	9.13	5.25	2.30	2.79	2.29	4.54	8.05	7.96
1947	57.8	70.4	40.4	26.7	14.5	26.6	28.8	47.2	47.0	38.5	34.3	10.4	41.9
1948	60.1	73.6	41.2	26.8	15.1	29.0	31.2	49.1	49.1	41.1	36.0	11.3	41.5
1949	50.5	62.9	37.2	22.9	14.1	29.2	32.0	43.3	48.6	38.0	37.0	11.1	41.9
1950	63.6	77.5	45.5	25.7	19.4	34.9	41.2	52.7	52.3	43.2	38.8	13.9	43.4
1951	69.2	86.6	48.6	32.6	19.5	38.9	37.8	52.5	51.3	42.8	39.5	15.7	44.3
1952	63.2	76.2	47.4	35.5	22.3	45.2	32.4	51.8	54.0	42.4	39.4	16.5	45.2
1953	71.6	87.9	53.5	36.9	25.6	56.8	40.8	54.8	54.7	43.5	41.2	17.8	46.1
195[illegible]	57.9	68.3	48.2	31.6	22.8	49.4	35.1	54.5	54.1	40.7	42.9	18.1	47.0
1955	75.3	90.8	55.0	34.6	26.1	56.8	47.1	60.8	59.7	46.4	47.2	21.1	49.8
195[illegible]	74.8	89.1	55.8	39.7	28.3	55.1	38.2	60.1	61.1	47.7	50.2	22.6	52.6
1957	71.6	85.9	57.2	39.6	28.1	59.0	40.1	55.2	60.9	45.5	51.9	23.9	53.4
1958	56.8	64.7	51.3	33.2	25.7	46.5	29.6	56.0	59.2	44.8	50.7	24.7	54.7
1959	66.4	74.5	57.6	38.8	31.2	52.7	38.5	63.6	65.2	50.7	54.1	28.8	57.4
1960	66.1	75.7	57.6	39.0	33.8	54.6	43.4	59.8	66.5	49.8	56.3	29.9	59.0
1961	64.9	72.3	56.2	37.9	35.9	51.3	38.1	62.6	66.9	51.2	56.5	31.4	60.7
1962	69.6	75.3	61.1	42.5	41.3	59.3	46.3	66.1	69.6	54.7	58.6	34.8	62.6
1963	75.1	82.1	63.1	45.4	42.4	65.1	51.3	69.2	72.5	56.7	61.7	38.1	64.9
1964	84.7	93.4	67.0	51.7	44.9	66.8	52.7	74.3	75.0	61.2	65.5	41.7	67.8
1965	93.2	102.4	73.6	58.2	53.5	79.4	67.3	77.2	79.3	66.6	69.7	46.5	69.4
1966	98.9	105.5	78.8	67.6	64.2	85.1	66.2	80.1	81.3	70.7	75.0	50.7	72.0
1967	91.4	97.5	82.5	68.9	64.5	83.2	58.2	79.3	80.9	70.7	79.1	53.0	75.2
1968	94.7	100.7	86.9	69.5	68.1	90.4	69.7	81.6	82.9	78.9	80.4	59.6	77.2
1969	101.9	109.7	88.4	75.2	72.5	89.7	70.0	81.5	85.6	83.0	84.3	64.5	79.8
1970	94.8	102.1	81.9	72.8	69.3	75.3	56.3	81.1	82.2	81.2	82.0	67.1	81.0
1971	89.9	93.4	81.5	67.6	69.6	81.5	70.6	83.2	83.2	85.7	82.7	71.4	83.6
1972	100.7	103.8	89.4	78.5	79.7	87.0	77.1	95.3	88.3	93.9	88.2	80.3	88.0
1973	114.3	118.2	99.4	91.7	90.7	99.1	89.8	95.6	89.0	97.8	90.6	87.8	89.8
1974	110.7	114.5	95.4	97.7	89.8	90.1	77.5	86.8	85.0	89.0	89.2	91.0	91.0
1975	88.2	92.0	82.7	84.5	77.2	81.0	65.7	80.8	77.6	84.8	83.5	82.9	90.4
1976	98.7	101.4	91.6	88.8	86.8	92.2	86.5	91.9	91.5	94.2	91.2	92.8	95.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.0	107.5	105.7	111.7	112.9	106.3	104.6	102.4	103.1	102.8	107.8	106.8	104.3
1979	108.5	108.0	109.4	122.6	125.7	108.3	95.9	102.0	98.3	104.4	112.7	111.4	106.7
1980	90.4	86.3	101.8	123.3	130.3	96.9	71.1	92.9	97.3	100.8	115.1	106.4	111.4
1981	95.0	92.5	101.6	129.8	134.1	95.1	71.6	90.1	96.1	98.1	118.6	112.6	113.7
1982	65.8	57.5	86.6	115.6	128.4	87.6	66.8	82.8	87.3	89.2	120.2	103.8	114.9
1983	73.0	66.1	89.1	118.3	143.8	99.2	85.8	100.2	95.3	100.9	129.8	114.0	120.4
1984	82.3	73.4	102.6	141.8	170.5	112.2	104.4	109.1	102.7	104.2	146.5	121.6	126.9
1985	80.4	70.4	107.1	146.2	168.3	122.8	111.9	114.3	100.4	102.2	151.4	126.4	130.5
1986	75.1	63.4	108.0	145.0	165.7	127.5	111.5	124.1	103.1	109.2	160.9	132.0	134.4
1987	81.3	70.6	111.0	152.7	172.3	129.2	111.8	130.3	107.4	115.9	172.1	140.2	137.8
1987: Jan.	72.8	59.5	108.4	143.4	170.4	129.0	112.0	128.5	106.1	109.2	166.3	136.4	134.6
Feb.	75.1	62.3	108.3	145.5	171.0	132.7	117.7	129.6	106.5	110.8	164.4	135.7	136.4
Mar.	77.0	65.4	110.5	148.5	168.5	132.2	116.5	128.9	105.4	112.6	167.6	135.3	137.3
Apr.	76.1	65.0	109.9	150.4	168.4	127.8	109.8	127.8	105.3	116.6	169.2	137.3	136.0
May	77.0	65.7	108.5	149.7	171.1	129.4	112.0	130.3	106.4	115.7	171.4	138.1	137.4
June	78.8	68.3	111.1	151.8	170.5	126.5	107.4	131.1	107.7	117.2	174.1	139.3	137.7
July	81.4	70.9	111.1	155.3	172.5	127.6	109.4	132.8	109.7	118.3	174.0	140.8	138.5
Aug.	85.1	76.0	110.1	154.3	174.3	128.1	109.1	131.1	108.4	119.8	174.7	142.3	138.8
Sept.	84.5	74.6	111.1	156.6	173.4	125.5	105.6	126.9	107.6	118.2	174.9	142.4	139.5
Oct.	90.6	82.0	113.5	158.0	175.5	132.0	116.0	129.8	108.0	116.8	175.2	141.5	138.0
Nov.	90.2	79.7	113.6	157.2	175.6	130.4	114.0	134.0	109.4	117.3	175.7	144.4	138.9
Dec.	90.6	81.9	115.8	161.0	175.9	128.1	110.2	133.6	107.8	118.2	176.9	147.9	140.1
1988: Jan.	86.5	77.8	117.1	162.9	177.4	128.6	109.7	136.3	108.7	116.2	177.5	147.9	141.2
Feb.	86.4	77.4	117.6	163.6	177.8	128.4	109.3	139.0	108.5	115.3	178.7	145.4	141.9
Mar.	85.1	74.2	118.8	164.6	176.6	130.0	113.0	137.8	108.7	117.0	180.4	146.4	141.1
Apr.	85.3	74.5	118.8	167.2	178.7	130.4	114.8	138.0	109.2	117.3	181.8	148.9	140.3
May	88.2	78.6	119.8	170.3	179.1	133.1	119.6	139.8	108.6	114.6	180.7	149.1	141.8
June	87.5	74.2	120.4	171.2	179.5	132.8	119.1	136.4	109.3	114.3	182.3	150.5	141.3
July	91.5	80.2	121.7	173.1	181.5	131.9	116.6	136.6	109.4	117.1	184.9	153.4	143.3
Aug.	90.8	78.9	122.1	174.1	182.2	131.8	117.5	133.8	108.9	116.4	186.7	154.8	143.3
Sept.	93.0	81.4	122.6	175.0	181.7	132.6	118.5	133.5	109.6	115.7	188.7	155.5	143.2
Oct. p	94.3	83.7	122.9	175.3	183.1	134.3	121.4	136.9		115.1	189.3	156.5	144.3
Nov. p	94.8		124.3	176.2	182.8	135.4	122.8				189.2		

Source: Board of Governors of the Federal Reserve System.

TABLE B–51.—*Capacity utilization rates, 1948–88*

[Percent; monthly data seasonally adjusted]

Year or month	Total industry	Manufacturing					Mining	Utilities	Industrial materials
		Total	Durable goods	Non-durable goods	Primary processing	Advanced processing			
1948		82.5			87.3	80.0			
1949		74.2			76.2	73.2			
1950		82.8			88.5	79.8			
1951		85.8			90.2	83.4			
1952		85.4			84.9	85.9			
1953		89.3			89.4	89.3			
1954		80.1			80.6	80.0			
1955		87.0			92.0	84.2			
1956		86.1			89.4	84.4			
1957		83.6			84.7	83.1			
1958		75.0			75.4	74.9			
1959		81.6			83.0	81.1			
1960		80.1			79.8	80.5			
1961		77.3			77.9	77.2			
1962		81.4			81.5	81.6			
1963		83.5			83.8	83.4			
1964		85.6			87.8	84.6			
1965		89.5			91.0	88.8			
1966		91.1			91.4	91.1			
1967	87.1	86.7	87.0	86.7	85.3	87.6	82.9	93.2	85.1
1968	87.4	87.0	86.7	87.7	86.9	87.0	84.6	93.9	86.8
1969	87.4	86.7	86.1	88.0	87.7	86.1	87.0	95.6	88.1
1970	80.9	79.2	76.1	83.9	80.9	78.3	89.0	95.1	81.8
1971	79.0	77.4	73.3	83.5	79.5	76.1	87.3	93.7	80.4
1972	84.0	82.8	79.7	87.4	86.4	81.1	90.2	94.5	86.0
1973	87.9	87.0	86.2	88.1	91.3	85.1	91.4	92.8	91.1
1974	83.6	82.6	81.6	84.2	85.4	81.5	91.1	86.8	86.1
1975	74.1	72.3	69.6	76.3	72.2	72.6	89.2	84.3	73.4
1976	78.8	77.4	74.8	81.4	79.3	76.8	89.7	85.3	80.3
1977	82.4	81.4	79.4	84.5	83.1	80.5	89.9	85.1	84.1
1978	84.8	84.2	82.9	86.1	86.0	83.1	90.3	85.0	86.3
1979	85.2	84.6	84.1	85.3	86.6	83.5	90.7	85.6	87.1
1980	80.9	79.3	77.9	81.3	77.9	80.0	93.2	85.4	81.1
1981	79.9	78.2	76.7	80.6	78.1	78.3	92.9	84.2	81.2
1982	72.1	70.3	66.9	75.4	67.5	71.7	83.4	81.4	71.8
1983	74.6	73.9	70.3	79.4	73.9	74.0	77.9	80.0	75.3
1984	81.0	80.5	78.7	83.3	80.9	80.3	84.0	83.0	82.0
1985	80.4	80.1	78.5	82.4	80.9	79.7	82.4	82.3	80.3
1986	79.4	79.7	77.2	83.5	81.8	78.8	76.4	79.1	78.6
1987	80.7	81.1	78.4	84.9	84.6	79.4	77.8	79.5	80.5
1987: Jan.	79.2	79.6	76.9	83.7	82.7	78.2	76.1	78.5	78.7
Feb.	79.7	80.0	77.6	83.6	82.4	79.0	75.8	78.8	78.7
Mar.	79.7	80.3	77.9	83.9	83.1	79.1	75.5	78.2	78.7
Apr.	79.6	80.2	77.5	84.2	83.5	78.7	75.9	76.8	79.1
May	79.9	80.4	77.6	84.6	83.2	79.2	76.5	79.2	79.3
June	80.3	80.8	77.8	85.2	84.0	79.2	76.6	79.0	79.8
July	81.1	81.5	78.6	85.9	85.4	79.8	76.8	80.2	80.6
Aug.	81.4	81.5	78.6	85.8	85.3	79.9	78.2	81.3	81.1
Sept.	81.1	81.3	78.4	85.5	85.1	79.5	79.1	80.0	81.2
Oct.	81.9	82.0	80.1	84.9	86.2	80.1	80.6	80.5	82.1
Nov.	82.1	82.2	79.9	85.6	87.0	80.0	81.5	81.2	82.9
Dec.	82.4	82.6	80.1	86.4	87.6	80.3	81.5	80.9	83.6
1988: Jan.	82.5	82.7	80.3	86.2	87.1	80.7	80.7	82.4	83.0
Feb.	82.4	82.6	80.5	85.7	86.6	80.7	79.5	82.6	82.3
Mar.	82.4	82.7	80.6	85.8	86.9	80.7	80.6	81.0	82.4
Apr.	82.7	82.9	80.9	85.9	86.9	81.2	82.3	79.3	82.9
May	82.9	83.3	81.8	85.4	87.0	81.7	80.8	79.7	83.0
June	83.0	83.3	81.7	85.5	86.6	81.7	81.2	80.8	83.2
July	83.7	84.0	82.3	86.4	87.8	82.2	82.5	81.5	84.4
Aug.	83.8	84.0	82.3	86.4	87.4	82.4	82.2	83.9	84.3
Sept.	83.7	84.0	82.5	86.2	87.2	82.5	82.2	80.3	84.1
Oct. p	84.0	84.3	82.9	86.4	87.6	82.7	81.6	80.8	84.4
Nov. p	84.2	84.5	83.1	86.5	88.0	82.9	82.2	81.0	84.3

Source: Board of Governors of the Federal Reserve System.

TABLE B–52.—*New construction activity, 1929–88*

[Value put in place, billions of dollars; monthly data at seasonally adjusted annual rates]

Year or month	Total new construction	Private construction							Public construction		
		Total	Residential buildings [1]		Nonresidential buildings and other construction [1]				Total	Federal	State and local [5]
			Total [2]	New housing units	Total	Commercial [3]	Industrial	Other [4]			
1929	10.8	8.3	3.6	3.0	4.7	1.1	0.9	2.6	2.5	0.2	2.3
1933	2.9	1.2	.5	.3	.8	.1	.2	.5	1.6	.5	1.1
1939	8.2	4.4	2.7	2.3	1.7	.3	.3	1.2	3.8	.8	3.1
1940	8.7	5.1	3.0	2.6	2.1	.3	.4	1.3	3.6	1.2	2.4
1941	12.0	6.2	3.5	3.0	2.7	.4	.8	1.5	5.8	3.8	2.0
1942	14.1	3.4	1.7	1.4	1.7	.2	.3	1.2	10.7	9.3	1.3
1943	8.3	2.0	.9	.7	1.1	.0	.2	.9	6.3	5.6	.7
1944	5.3	2.2	.8	.6	1.4	.1	.2	1.1	3.1	2.5	.6
1945	5.8	3.4	1.3	.7	2.1	.2	.6	1.3	2.4	1.7	.7
1946	14.3	12.1	6.2	4.8	5.8	1.2	1.7	3.0	2.2	.9	1.4
New series											
1947	20.0	16.7	9.9	7.8	6.9	1.0	1.7	4.2	3.3	.8	2.5
1948	26.1	21.4	13.1	10.5	8.2	1.4	1.4	5.5	4.7	1.2	3.5
1949	26.7	20.5	12.4	10.0	8.0	1.2	1.0	5.9	6.3	1.5	4.8
1950	33.6	26.7	18.1	15.6	8.6	1.4	1.1	6.1	6.9	1.6	5.2
1951	35.4	26.2	15.9	13.2	10.3	1.5	2.1	6.7	9.3	3.0	6.3
1952	36.8	26.0	15.8	12.9	10.2	1.1	2.3	6.8	10.8	4.2	6.6
1953	39.1	27.9	16.6	13.4	11.3	1.8	2.2	7.3	11.2	4.1	7.1
1954	41.4	29.7	18.2	14.9	11.5	2.2	2.0	7.2	11.7	3.4	8.3
1955	46.5	34.8	21.9	18.2	12.9	3.2	2.4	7.3	11.7	2.8	8.9
1956	47.6	34.9	20.2	16.1	14.7	3.6	3.1	8.0	12.7	2.7	10.0
1957	49.1	35.1	19.0	14.7	16.1	3.6	3.6	9.0	14.1	3.0	11.1
1958	50.0	34.6	19.8	15.4	14.8	3.6	2.4	8.8	15.5	3.4	12.1
1959	55.4	39.3	24.3	19.2	15.1	3.9	2.1	9.0	16.1	3.7	12.3
1960	54.7	38.9	23.0	17.3	15.9	4.2	2.9	8.9	15.9	3.6	12.2
1961	56.4	39.3	23.1	17.1	16.2	4.7	2.8	8.7	17.1	3.9	13.3
1962	60.2	42.3	25.2	19.4	17.2	5.1	2.8	9.2	17.9	3.9	14.0
1963	64.8	45.5	27.9	21.7	17.6	5.0	2.9	9.7	19.4	4.0	15.4
New series											
1964	72.6	52.4	30.5	24.1	21.8	6.8	3.6	11.5	20.2	3.7	16.5
1965	78.5	56.6	30.2	23.8	26.3	8.1	5.1	13.1	21.9	3.9	18.0
1966	81.8	58.0	28.6	21.8	29.4	8.1	6.6	14.7	23.8	3.8	20.0
1967	83.5	58.1	28.7	21.5	29.4	8.0	6.0	15.4	25.4	3.3	22.1
1968	93.2	65.7	34.2	26.7	31.6	9.0	6.0	16.6	27.4	3.2	24.2
1969	100.5	72.7	37.2	29.2	35.5	10.7	6.8	17.9	27.8	3.2	24.6
1970	101.3	73.4	35.9	27.1	37.5	11.1	6.5	19.9	27.9	3.1	24.8
1971	117.9	88.2	48.5	38.7	39.7	13.0	5.4	21.3	29.7	3.8	25.9
1972	133.9	103.9	60.7	50.1	43.2	15.4	4.7	23.1	30.0	4.2	25.8
1973	147.4	115.0	65.1	54.6	49.9	17.7	6.2	26.0	32.3	4.7	27.6
1974	147.8	109.6	56.0	43.4	53.7	17.6	7.9	28.2	38.1	5.1	33.0
1975	144.3	102.6	51.6	36.3	51.0	13.9	8.0	29.1	41.7	6.1	35.6
1976	163.0	122.1	68.3	50.8	53.8	13.7	7.2	33.0	40.9	6.8	34.1
1977	188.0	148.6	92.0	72.2	56.6	15.7	7.7	33.2	39.4	7.1	32.4
1978	225.9	178.4	109.8	85.6	68.6	19.7	11.0	37.9	47.5	8.1	39.3
1979	252.4	200.7	116.4	89.3	84.3	27.1	15.0	42.3	51.7	8.6	43.1
1980	251.7	193.3	100.4	69.6	92.9	32.9	13.8	46.2	58.5	9.6	48.8
1981	260.2	203.6	99.2	69.4	104.4	38.0	17.0	49.4	56.5	10.4	46.1
1982	246.6	192.9	84.7	57.0	108.2	41.4	17.3	49.5	53.7	10.0	43.7
1983	281.3	227.5	125.5	94.6	102.0	41.0	12.9	48.1	53.8	10.6	43.2
1984	328.6	271.0	153.8	113.8	117.1	54.9	13.7	48.5	57.7	11.2	46.4
1985	355.7	291.7	158.5	114.7	133.2	66.9	15.8	50.5	64.1	12.0	52.1
1986	386.1	314.7	187.1	133.2	127.5	64.2	13.7	49.5	71.4	12.4	59.0
1987	398.9	323.8	194.8	139.9	129.0	62.8	13.7	52.5	75.0	14.1	61.0

See next page for continuation of table.

TABLE B–52.—*New construction activity, 1929–88*—Continued

[Value put in place, billions of dollars; monthly data at seasonally adjusted annual rates]

Year or month	Total new construction	Private construction							Public construction		
		Total	Residential buildings [1]		Nonresidential buildings and other construction [1]				Total	Federal [2]	State and local [3]
			Total [2]	New housing units	Total	Commercial [3]	Industrial	Other [4]			
1987: Jan	389.8	315.7	192.9	138.1	122.7	59.4	12.8	50.5	74.1	13.1	61.0
Feb	393.7	319.5	193.3	138.9	126.1	62.2	12.8	51.1	74.3	11.5	62.7
Mar	394.3	319.6	196.4	139.5	123.2	60.8	12.3	50.1	74.7	12.8	61.8
Apr	396.3	321.5	197.2	140.2	124.3	61.0	12.1	51.2	74.8	12.6	62.2
May	397.9	322.6	195.8	139.3	126.9	62.5	13.6	50.8	75.2	14.9	60.3
June	392.6	319.5	193.5	138.6	126.0	61.2	13.8	51.0	73.0	14.1	59.0
July	398.9	323.3	193.7	138.7	129.7	63.1	13.9	52.6	75.6	15.3	60.2
Aug	398.3	325.7	193.1	138.7	132.5	65.5	14.3	52.8	72.6	14.1	58.5
Sept	405.4	327.1	194.8	140.0	132.3	63.7	15.3	53.3	78.2	17.2	61.1
Oct	400.8	325.9	194.5	140.7	131.4	63.9	14.0	53.5	74.9	13.0	61.9
Nov	407.1	331.5	195.6	142.3	135.9	66.5	14.5	54.9	75.6	14.3	61.2
Dec	410.9	331.6	195.8	142.8	135.8	63.3	14.1	58.4	79.2	15.8	63.5
1988: Jan	395.3	321.6	195.2	140.8	126.4	60.7	13.5	52.2	73.7	12.4	61.4
Feb	392.5	317.8	192.1	138.0	125.7	59.9	13.5	52.3	74.7	11.8	62.9
Mar	403.6	324.3	195.6	139.2	128.7	61.8	14.5	52.3	79.3	14.1	65.2
Apr	396.2	318.5	192.0	138.5	126.5	63.0	13.8	49.7	77.7	12.6	65.2
May	398.5	320.2	190.4	137.7	129.8	64.2	13.9	51.8	78.3	12.3	65.9
June	395.7	317.7	188.1	136.8	129.6	63.8	13.7	52.2	78.0	14.0	64.0
July	401.8	322.5	192.8	136.4	129.7	63.1	13.2	53.4	79.3	13.2	66.1
Aug	402.8	326.2	195.8	137.2	130.4	62.6	12.9	54.9	76.7	13.5	63.2
Sept	405.5	326.5	196.9	138.5	129.6	61.5	12.7	55.4	79.0	14.6	64.4
Oct [p]	409.2	328.4	198.9	140.0	129.4	60.5	13.7	55.2	80.9	13.4	67.5

[1] Beginning 1960, farm residential buildings included in residential buildings; prior to 1960, included in nonresidential buildings and other construction.

[2] Includes residential improvements, not shown separately. Prior to 1964, also includes nonhousekeeping units (hotels, motels, etc.)

[3] Office buildings, warehouses, stores, restaurants, garages, etc., and, beginning 1964, hotels and motels; prior to 1964 hotels and motels are included in total residential.

[4] Religious, educational, hospital and institutional, miscellaneous nonresidential, farm (see also footnote 1), public utilities, and all other private.

[5] Includes Federal grants-in-aid for State and local projects.

Source: Department of Commerce, Bureau of the Census.

TABLE B–53.—*New housing units started and authorized, 1959–88*

[Thousands of units]

Year or month	New housing units started						New private housing units authorized [2]			
	Private and public [1]		Private (farm and nonfarm) [1]				Total	Type of structure		
	Total (farm and nonfarm)	Nonfarm	Total	Type of structure				1 unit	2 to 4 units	5 units or more
				1 unit	2 to 4 units	5 units or more				
1959	1,553.7	1,531.3	1,517.0	1,234.0	283.0		1,208.3	938.3	77.1	192.9
1960	1,296.1	1,274.0	1,252.2	994.7	257.4		998.0	746.1	64.6	187.4
1961	1,365.0	1,336.8	1,313.0	974.3	338.7		1,064.2	722.8	67.6	273.8
1962	1,492.5	1,468.7	1,462.9	991.4	471.5		1,186.6	716.2	87.1	383.3
1963	1,634.9	1,614.8	1,603.2	1,012.4	590.8		1,334.7	750.2	118.9	465.6
1964	1,561.0	1,534.0	1,528.8	970.5	108.4	450.0	1,285.8	720.1	100.8	464.9
1965	1,509.7	1,487.5	1,472.8	963.7	86.6	422.5	1,239.8	709.9	84.8	445.1
1966	1,195.8	1,172.8	1,164.9	778.6	61.1	325.1	971.9	563.2	61.0	347.7
1967	1,321.9	1,298.8	1,291.6	843.9	71.6	376.1	1,141.0	650.6	73.0	417.5
1968	1,545.4	1,521.4	1,507.6	899.4	80.9	527.3	1,353.4	694.7	84.3	574.4
1969	1,499.5	1,482.3	1,466.8	810.6	85.0	571.2	1,323.7	625.9	85.2	612.7
1970	1,469.0	(3)	1,433.6	812.9	84.8	535.9	1,351.5	646.8	88.1	616.7
1971	2,084.5	(3)	2,052.2	1,151.0	120.3	780.9	1,924.6	906.1	132.9	885.7
1972	2,378.5	(3)	2,356.6	1,309.2	141.3	906.2	2,218.9	1,033.1	148.6	1,037.2
1973	2,057.5	(3)	2,045.3	1,132.0	118.3	795.0	1,819.5	882.1	117.0	820.5
1974	1,352.5	(3)	1,337.7	888.1	68.1	381.6	1,074.4	643.8	64.3	366.2
1975	1,171.4	(3)	1,160.4	892.2	64.0	204.3	939.2	675.5	63.9	199.8
1976	1,547.6	(3)	1,537.5	1,162.4	85.9	289.2	1,296.2	893.6	93.1	309.5
1977	2,001.7	(3)	1,987.1	1,450.9	121.7	414.4	1,690.0	1,126.1	121.3	442.7
1978	2,036.1	(3)	2,020.3	1,433.3	125.0	462.0	1,800.5	1,182.6	130.6	487.3
1979	1,760.0	(3)	1,745.1	1,194.1	122.0	429.0	1,551.8	981.5	125.4	444.8
1980	1,312.6	(3)	1,292.2	852.2	109.5	330.5	1,190.6	710.4	114.5	365.7
1981	1,100.3	(3)	1,084.2	705.4	91.1	287.7	985.5	564.3	101.8	319.4
1982	1,072.1	(3)	1,062.2	662.6	80.0	319.6	1,000.5	546.4	88.3	365.8
1983	1,712.5	(3)	1,703.0	1,067.6	113.5	522.0	1,605.2	901.5	133.6	570.1
1984	1,755.8	(3)	1,749.5	1,084.2	121.4	544.0	1,681.8	922.4	142.6	616.8
1985	1,745.0	(3)	1,741.8	1,072.4	93.4	576.1	1,733.3	956.6	120.1	656.6
1986	1,807.1	(3)	1,805.4	1,179.4	84.0	542.0	1,769.4	1,077.6	108.4	583.5
1987	1,622.7	(3)	1,620.5	1,146.4	65.3	408.7	1,534.8	1,024.4	89.3	421.1
			Seasonally adjusted annual rates							
1987: Jan	105.1	(3)	1,804	1,245	79	480	1,692	1,097	97	498
Feb	102.8	(3)	1,809	1,285	74	450	1,688	1,201	104	383
Mar	141.3	(3)	1,723	1,206	85	432	1,682	1,124	94	464
Apr	159.6	(3)	1,635	1,201	66	368	1,596	1,053	97	446
May	158.3	(3)	1,599	1,125	65	409	1,504	1,008	92	404
June	163.2	(3)	1,583	1,086	85	412	1,539	1,022	87	430
July	152.7	(3)	1,594	1,142	59	393	1,510	994	89	427
Aug	143.9	(3)	1,583	1,109	58	416	1,514	1,014	83	417
Sept	152.3	(3)	1,679	1,211	49	419	1,501	983	86	432
Oct	139.1	(3)	1,538	1,105	67	366	1,453	962	81	410
Nov	118.9	(3)	1,661	1,129	51	481	1,459	971	83	405
Dec	85.4	(3)	1,399	1,035	51	313	1,372	957	83	332
1988: Jan	78.2	(3)	1,382	1,016	53	313	1,248	918	70	260
Feb	90.3	(3)	1,519	1,102	59	358	1,429	1,003	75	351
Mar	129.0	(3)	1,529	1,172	57	300	1,476	1,030	80	366
Apr	153.4	(3)	1,584	1,093	58	433	1,449	960	75	414
May	140.3	(3)	1,393	1,004	52	337	1,436	982	76	378
June	150.3	(3)	1,465	1,092	62	311	1,493	1,002	79	412
July	137.2	(3)	1,477	1,068	51	358	1,420	984	79	357
Aug	136.8	(3)	1,461	1,078	61	322	1,464	1,022	74	368
Sept	131.4	(3)	1,467	1,045	61	361	1,394	974	75	345
Oct [p]	136.6	(3)	1,542	1,142	62	338	1,516	1,027	83	406
Nov [p]	112.8	(3)	1,563	1,151	64	348	1,516	1,046	83	387

[1] Units in structures built by private developers for sale upon completion to local public housing authorities under the Department of Housing and Urban Development "Turnkey" program are classified as private housing. Military housing starts, including those financed with mortgages insured by FHA under Section 803 of the National Housing Act, are included in publicly owned starts and excluded from total private starts.

[2] Authorized by issuance of local building permit: in 17,000 permit-issuing places beginning 1984; in 16,000 places for 1978–83; in 14,000 places for 1972–77; in 13,000 places for 1967–71; in 12,000 places for 1963–66; and in 10,000 places prior to 1963.

[3] Not available separately beginning January 1970.

Source: Department of Commerce, Bureau of the Census.

TABLE B–54.—*Business expenditures for new plant and equipment, 1947–89*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Industries surveyed quarterly									Addenda				
	All industries	Manufacturing			Nonmanufacturing					Total nonfarm business [2]	Manufacturing	Nonmanufacturing		
		Total	Durable goods	Nondurable goods	Total [1]	Mining	Transportation	Public utilities	Commercial and other			Total	Surveyed quarterly	Surveyed annually [3]
1947	20.11	8.73	3.39	5.34	11.38	0.69	2.69	1.64	6.38	22.27	8.73	13.54	11.38	2.16
1948	22.78	9.25	3.54	5.71	13.53	.93	3.17	2.67	6.77	25.97	9.25	16.73	13.53	3.19
1949	20.28	7.32	2.67	4.64	12.96	.88	2.80	3.28	6.01	24.03	7.32	16.72	12.96	3.76
1950	21.56	7.73	3.22	4.51	13.83	.84	2.87	3.42	6.70	25.81	7.73	18.08	13.83	4.25
1951	26.81	11.07	5.12	5.95	15.74	1.11	3.60	3.75	7.29	31.38	11.07	20.31	15.74	4.57
1952	28.16	12.12	5.75	6.37	16.04	1.21	3.56	3.96	7.31	32.16	12.12	20.04	16.04	4.00
1953	29.96	12.43	5.71	6.72	17.53	1.25	3.58	4.61	8.09	34.20	12.43	21.77	17.53	4.23
1954	28.86	12.00	5.49	6.51	16.85	1.29	2.91	4.23	8.42	33.62	12.00	21.62	16.85	4.76
1955	30.94	12.50	5.87	6.62	18.44	1.31	3.10	4.26	9.77	37.08	12.50	24.58	18.44	6.14
1956	37.90	16.33	8.19	8.15	21.57	1.64	3.56	4.78	11.59	45.25	16.33	28.91	21.57	7.35
1957	40.54	17.50	8.59	8.91	23.04	1.69	3.84	5.95	11.56	48.62	17.50	31.11	23.04	8.08
1958	33.84	12.98	6.21	6.77	20.86	1.43	2.72	5.74	10.97	42.55	12.98	29.57	20.86	8.72
1959	35.88	13.76	6.72	7.04	22.12	1.35	3.47	5.46	11.84	45.17	13.76	31.41	22.12	9.29
1960	39.44	16.36	8.28	8.08	23.08	1.29	3.54	5.40	12.86	48.99	16.36	32.63	23.08	9.55
1961	38.34	15.53	7.43	8.10	22.80	1.26	3.14	5.20	13.21	48.14	15.53	32.60	22.80	9.80
1962	40.86	16.03	7.81	8.22	24.83	1.41	3.59	5.12	14.71	51.61	16.03	35.58	24.83	10.75
1963	43.67	17.27	8.64	8.63	26.40	1.26	3.64	5.33	16.17	53.59	17.27	36.33	26.40	9.93
1964	51.26	21.23	10.98	10.25	30.04	1.33	4.71	5.80	18.20	62.02	21.23	40.80	30.04	10.76
1965	59.52	25.41	13.49	11.92	34.12	1.36	5.66	6.49	20.60	70.79	25.41	45.39	34.12	11.27
1966	70.40	31.37	17.23	14.15	39.03	1.42	6.68	7.82	23.11	82.62	31.37	51.25	39.03	12.22
1967	72.75	32.25	17.83	14.42	40.50	1.38	6.57	9.33	23.22	83.82	32.25	51.57	40.50	11.07
1968	76.42	32.34	17.93	14.40	44.08	1.44	6.91	10.52	25.22	88.92	32.34	56.58	44.08	12.50
1969	85.74	36.27	19.97	16.31	49.47	1.77	7.23	11.70	28.77	100.02	36.27	63.74	49.47	14.27
1970	91.91	36.99	19.80	17.19	54.92	2.02	7.17	13.03	32.71	106.15	36.99	69.16	54.92	14.24
1971	92.91	33.60	16.78	16.82	59.31	2.67	6.42	14.70	35.52	109.18	33.60	75.58	59.31	16.26
1972	103.40	35.42	18.22	17.20	67.98	2.88	7.14	16.26	41.69	120.91	35.42	85.49	67.98	17.51
1973	120.03	42.35	22.63	19.72	77.67	3.30	8.00	17.99	48.39	139.26	42.35	96.91	77.67	19.24
1974	139.67	52.48	26.77	25.71	87.19	4.58	9.16	19.96	53.49	159.83	52.48	107.35	87.19	20.16
1975	142.42	53.66	25.37	28.28	88.76	6.12	9.95	20.23	52.47	162.60	53.66	108.95	88.76	20.19
1976	158.44	58.53	27.50	31.03	99.91	7.63	11.10	22.90	58.29	179.91	58.53	121.38	99.91	21.47
1977	184.82	67.48	32.77	34.71	117.34	9.81	12.20	27.83	67.51	208.15	67.48	140.67	117.34	23.33
1978	217.76	78.58	39.46	39.13	139.18	11.22	13.36	31.50	83.09	245.34	78.58	166.76	139.18	27.58
1979	254.96	95.92	48.50	47.42	159.04	12.81	16.05	35.63	94.56	284.94	95.92	189.02	159.04	29.98
1980	282.80	112.33	55.36	56.96	170.47	15.99	16.60	37.74	100.14	314.47	112.33	202.15	170.47	31.68
1981	315.22	126.54	59.81	66.73	188.68	21.39	15.84	41.21	110.24	349.26	126.54	222.72	188.68	34.04
1982	310.58	120.68	55.35	65.33	189.89	20.05	14.79	45.43	109.63	347.47	120.68	226.79	189.89	36.89
1983	304.78	116.20	53.08	63.12	188.58	15.19	13.97	44.96	114.45	343.35	116.20	227.15	188.58	38.56
1984	354.44	138.82	66.24	72.58	215.61	16.86	16.52	47.48	134.75	398.99	138.82	260.16	215.61	44.55
1985	387.13	153.48	73.27	80.21	233.65	15.88	18.02	48.81	150.94	431.94	153.48	278.46	233.65	44.81
1986	379.47	142.69	69.14	73.56	236.78	11.22	18.80	46.38	160.38	427.23	142.69	284.54	236.78	47.75
1987	389.67	145.90	71.01	74.88	243.78	11.39	18.85	44.88	168.65	440.66	145.90	294.77	243.78	50.99
1988 [4]	430.17	164.54	77.75	86.79	265.63	12.57	21.36	46.39	185.32	.....	164.54	.....	265.63	.....
1989 [4]	455.96	171.67	79.29	92.38	284.30	11.22	24.81	47.15	201.12	.....	171.67	.....	284.30	.....
1987: I	376.73	141.50	70.79	70.70	235.23	10.38	18.77	43.95	162.13	.....	141.50	.....	235.23	.....
II	380.66	141.71	69.05	72.66	238.95	11.02	18.12	43.95	165.86	.....	141.71	.....	238.95	.....
III	394.54	148.20	71.96	76.24	246.34	11.81	19.19	45.29	170.05	.....	148.20	.....	246.34	.....
IV	406.82	152.21	72.28	79.92	254.61	12.32	19.34	46.38	176.56	.....	152.21	.....	254.61	.....
1988: I	412.02	158.60	75.70	82.90	253.43	12.59	20.43	44.61	175.79	.....	158.60	.....	253.43	.....
II	426.94	161.69	76.87	84.82	265.25	13.26	20.72	45.43	185.83	.....	161.69	.....	265.25	.....
III	436.01	168.91	79.48	89.43	267.10	12.47	22.17	46.70	185.76	.....	168.91	.....	267.10	.....
IV [4]	445.73	168.97	78.97	90.00	276.76	11.97	22.12	48.80	193.87	.....	168.97	.....	276.76	.....
1989: I [4]	466.76	177.81	84.25	93.56	288.95	11.62	26.90	49.35	201.07	.....	177.81	.....	288.95	.....
II [4]	473.55	179.48	84.00	95.48	294.07	11.81	25.83	50.51	205.92	.....	179.48	.....	294.07	.....

[1] Excludes forestry, fisheries, and agricultural services; professional services; social services and membership organizations; and real estate, which, effective with the April–May 1984 survey, are no longer surveyed quarterly. See last column ("nonmanufacturing surveyed annually") for data for these industries.

[2] "All industries" plus the part of nonmanufacturing that is surveyed annually.

[3] Consists of forestry, fisheries, and agricultural services; professional services; social services and membership organizations; and real estate.

[4] Planned capital expenditures as reported by business in October and November 1988, corrected for biases.

Source: Department of Commerce, Bureau of the Census.

TABLE B–55.—*Manufacturing and trade, sales and inventories, 1948–88*

[Amounts in millions of dollars; monthly data seasonally adjusted]

Year or month	Total manufacturing and trade			Manufacturing			Merchant wholesalers			Retail trade		
	Sales [1]	Inventories [2]	Ratio [3]	Sales [1]	Inventories [2]	Ratio [3]	Sales [1]	Inventories [2]	Ratio [3]	Sales [1]	Inventories [2]	Ratio [3]
1948	35,260	52,507	1.42	17,316	28,543	1.57	6,808	7,957	1.13	11,135	16,007	1.39
1949	33,788	49,497	1.53	16,126	26,321	1.75	6,514	7,706	1.19	11,149	15,470	1.41
1950	38,596	59,822	1.36	18,634	31,078	1.48	7,695	9,284	1.07	12,268	19,460	1.38
1951	43,356	70,242	1.55	21,714	39,306	1.66	8,597	9,886	1.16	13,046	21,050	1.64
1952	44,840	72,377	1.58	22,529	41,136	1.78	8,782	10,210	1.12	13,529	21,031	1.52
1953	47,987	76,122	1.58	24,843	43,948	1.76	9,052	10,686	1.17	14,091	21,488	1.53
1954	46,443	73,175	1.60	23,355	41,612	1.81	8,993	10,637	1.18	14,095	20,926	1.51
1955	51,694	79,516	1.47	26,480	45,069	1.62	9,893	11,678	1.13	15,321	22,769	1.43
1956	54,063	87,304	1.55	27,740	50,642	1.73	10,513	13,260	1.19	15,811	23,402	1.47
1957	55,879	89,052	1.59	28,736	51,871	1.80	10,475	12,730	1.23	16,667	24,451	1.44
1958	54,201	87,093	1.60	27,247	50,241	1.84	10,257	12,739	1.24	16,696	24,113	1.43
1959	59,729	92,129	1.50	30,286	52,945	1.70	11,491	13,879	1.15	17,951	25,305	1.40
1960	60,827	94,713	1.56	30,879	53,780	1.75	11,656	14,120	1.22	18,294	26,813	1.45
1961	61,159	95,594	1.54	30,923	54,885	1.74	11,988	14,488	1.20	18,249	26,221	1.43
1962	65,662	101,063	1.50	33,357	58,186	1.70	12,674	14,936	1.16	19,630	27,941	1.38
1963	68,995	105,480	1.49	35,058	60,046	1.69	13,382	16,048	1.15	20,556	29,386	1.39
1964	73,682	111,503	1.47	37,331	63,409	1.64	14,529	17,000	1.14	21,823	31,094	1.40
1965	80,283	120,907	1.45	40,995	68,185	1.60	15,611	18,317	1.15	23,677	34,405	1.39
1966	87,187	136,790	1.47	44,870	77,952	1.62	16,987	20,765	1.15	25,330	38,073	1.44
1967	90,765	144,870	1.60	46,487	84,666	1.82	19,520	24,955	1.28	24,758	35,249	1.42
1968	98,607	155,771	1.58	50,228	90,618	1.80	20,926	26,268	1.26	27,453	38,885	1.42
1969	105,585	169,420	1.60	53,501	98,203	1.84	22,694	28,762	1.27	29,390	42,455	1.44
1970	108,100	177,493	1.64	52,805	101,653	1.93	24,031	32,199	1.34	31,264	43,641	1.40
1971	116,769	187,722	1.61	55,906	102,656	1.84	26,350	35,210	1.34	34,513	49,856	1.44
1972	130,931	201,862	1.54	63,027	108,237	1.72	29,695	38,816	1.31	38,209	54,809	1.43
1973	153,762	233,171	1.52	72,931	124,626	1.71	38,173	45,556	1.19	42,658	62,989	1.48
1974	177,946	285,883	1.61	84,790	157,792	1.86	47,989	57,239	1.19	45,167	70,852	1.57
1975	182,402	288,417	1.58	86,589	159,935	1.85	46,803	56,972	1.22	49,010	71,510	1.46
1976	204,381	318,647	1.56	98,797	175,195	1.77	50,885	64,365	1.26	54,699	79,087	1.45
1977	229,773	351,164	1.53	113,202	189,214	1.67	56,364	72,801	1.29	60,207	89,149	1.48
1978	260,592	399,220	1.53	126,905	210,509	1.66	66,669	86,405	1.30	67,018	102,306	1.53
1979	298,144	451,166	1.51	143,936	241,100	1.68	79,472	99,262	1.25	74,737	110,804	1.48
1980	327,874	508,327	1.55	154,391	264,281	1.71	93,704	122,979	1.31	79,779	121,067	1.52
1981	356,700	545,613	1.53	168,129	282,645	1.68	102,013	130,275	1.28	86,558	132,693	1.53
1982	348,747	574,491	1.65	163,350	311,827	1.91	96,290	128,196	1.33	89,107	134,468	1.51
1983	368,930	590,673	1.60	171,242	312,647	1.83	100,324	130,445	1.30	97,364	147,581	1.52
1984	408,142	644,905	1.58	187,869	334,767	1.78	113,390	142,622	1.26	106,882	167,517	1.57
1985	418,605	656,165	1.57	190,016	327,496	1.72	114,645	147,145	1.28	113,944	181,524	1.59
1986	424,177	655,065	1.54	188,360	316,182	1.68	116,026	152,887	1.32	119,791	185,996	1.55
1987	451,788	707,329	1.57	199,170	331,132	1.66	126,736	165,097	1.30	125,882	211,100	1.68
1987: Jan	425,169	661,246	1.56	189,809	317,449	1.67	118,114	154,863	1.31	117,246	188,934	1.61
Feb	442,039	662,850	1.50	194,981	317,302	1.63	123,766	154,821	1.25	123,292	190,727	1.55
Mar	442,633	665,994	1.50	195,251	317,374	1.63	123,702	155,164	1.25	123,680	193,456	1.56
Apr	444,300	668,203	1.50	195,084	317,949	1.63	124,607	155,756	1.25	124,609	194,498	1.56
May	446,897	674,539	1.51	195,779	318,885	1.63	126,321	158,540	1.26	124,797	197,114	1.58
June	451,532	677,777	1.50	198,602	319,076	1.61	126,469	158,686	1.25	126,461	200,015	1.58
July	453,508	681,122	1.50	198,964	320,512	1.61	127,422	158,351	1.24	127,122	202,259	1.59
Aug	458,052	682,212	1.49	199,288	322,613	1.62	129,316	157,198	1.22	129,448	202,401	1.56
Sept	462,889	686,700	1.48	203,806	323,877	1.59	130,872	159,621	1.22	128,211	203,202	1.58
Oct	462,938	694,776	1.50	204,706	325,716	1.59	131,196	163,067	1.24	127,036	205,993	1.62
Nov	461,320	700,688	1.52	205,495	329,075	1.60	128,501	163,353	1.27	127,324	208,260	1.64
Dec	464,394	707,329	1.52	207,447	331,132	1.60	128,332	165,097	1.29	128,615	211,100	1.64
1988: Jan	646,772	711,586	1.53	206,283	333,374	1.62	129,720	168,388	1.30	128,769	209,824	1.63
Feb	468,675	714,746	1.53	206,932	335,416	1.62	131,622	170,632	1.30	130,121	208,698	1.60
Mar	476,922	717,249	1.50	211,778	336,695	1.59	132,885	171,732	1.29	132,259	208,822	1.58
Apr	477,768	721,016	1.51	213,036	337,936	1.59	133,015	173,530	1.30	131,717	209,550	1.59
May	481,874	725,381	1.51	215,777	340,074	1.58	133,264	173,418	1.30	132,833	211,889	1.60
June	488,787	730,916	1.50	218,881	341,963	1.56	136,289	175,001	1.28	133,617	213,952	1.60
July	489,235	735,890	1.50	216,698	343,788	1.59	138,195	177,307	1.28	134,342	214,795	1.60
Aug	495,482	743,851	1.50	221,715	345,798	1.56	139,008	179,165	1.29	134,759	218,888	1.62
Sept	495,418	750,261	1.51	221,395	347,785	1.57	139,682	180,278	1.29	134,341	222,198	1.65
Oct	501,450	751,437	1.50	222,540	349,908	1.57	142,378	180,785	1.27	136,532	220,744	1.62

[1] Monthly average for year and total for month.

[2] Seasonally adjusted, end of period. Inventories beginning January 1982 for manufacturing and December 1980 for wholesale and retail trade are not comparable with earlier periods.

[3] Inventory/sales ratio. Beginning 1967 annual data are based on December inventories and monthly average sales for the year. For earlier periods, data are weighted averages. For monthly data, ratio of inventories at end of month to sales for month.

Note.—Earlier data are not strictly comparable with data beginning 1958 for manufacturing and beginning 1967 for wholesale and retail trade.

Source: Department of Commerce, Bureau of the Census.

TABLE B–56.—*Manufacturers' shipments and inventories, 1947–88*

[Millions of dollars; monthly data seasonally adjusted]

Year or month	Shipments [1]			Inventories [2]							
					Durable goods industries				Nondurable goods industries			
	Total	Durable goods industries	Nondurable goods industries	Total	Total	Materials and supplies	Work in process	Finished goods	Total	Materials and supplies	Work in process	Finished goods
1947	15,513	6,694	8,819	25,897	13,061				12,836			
1948	17,316	7,579	9,738	28,543	14,662				13,881			
1949	16,126	7,191	8,935	26,321	13,060				13,261			
1950	18,634	8,845	9,789	31,078	15,539				15,539			
1951	21,714	10,493	11,221	39,306	20,991				18,315			
1952	22,529	11,313	11,216	41,136	23,731				17,405			
1953	24,843	13,349	11,494	43,948	25,878	8,966	10,720	6,206	18,070	8,317	2,472	7,409
1954	23,355	11,828	11,527	41,612	23,710	7,894	9,721	6,040	17,902	8,167	2,440	7,415
1955	26,480	14,071	12,409	45,069	26,405	9,194	10,756	6,348	18,664	8,556	2,571	7,666
1956	27,740	14,715	13,025	50,642	30,447	10,417	12,317	7,565	20,195	8,971	2,721	8,622
1957	28,736	15,237	13,499	51,871	31,728	10,608	12,837	8,125	20,143	8,775	2,864	8,524
1958	27,247	13,563	13,684	50,241	30,258	10,032	12,387	7,839	19,983	8,662	2,828	8,491
1959	30,286	15,609	14,677	52,945	32,077	10,776	13,063	8,239	20,868	9,080	2,944	8,845
1960	30,879	15,883	14,996	53,780	32,371	10,353	12,772	9,245	21,409	9,082	2,946	9,380
1961	30,923	15,616	15,307	54,885	32,544	10,279	13,203	9,063	22,341	9,493	3,110	9,738
1962	33,357	17,262	16,095	58,186	34,632	10,810	14,159	9,662	23,554	9,813	3,296	10,444
1963	35,058	18,280	16,778	60,046	35,866	11,068	14,871	9,925	24,180	9,978	3,406	10,796
1964	37,331	19,637	17,694	63,409	38,506	11,970	16,191	10,344	24,903	10,131	3,511	11,261
1965	40,995	22,221	18,774	68,185	42,257	13,325	18,075	10,854	25,928	10,448	3,806	11,674
1966	44,870	24,649	20,220	77,952	49,920	15,489	21,939	12,491	28,032	11,155	4,204	12,673
1967	46,487	25,267	21,220	84,666	55,005	16,455	25,005	13,547	29,659	11,715	4,421	13,523
1968	50,228	27,659	22,570	90,618	58,875	17,376	27,336	14,163	31,743	12,289	4,848	14,606
1969	53,501	29,437	24,064	98,203	64,739	18,693	30,408	15,639	33,463	12,724	5,122	15,617
1970	52,805	28,188	24,617	101,653	66,780	19,182	29,848	17,751	34,871	13,150	5,274	16,448
1971	55,906	29,954	25,952	102,656	66,289	19,759	28,650	17,880	36,368	13,683	5,665	17,019
1972	63,027	34,027	29,000	108,237	70,250	20,860	30,788	18,601	37,988	14,676	5,982	17,330
1973	72,931	39,681	33,250	124,626	81,398	26,028	35,545	19,823	43,230	18,132	6,707	18,391
1974	84,790	44,230	40,560	157,792	101,739	35,151	42,603	23,985	56,053	23,699	8,175	24,179
1975	86,589	43,659	42,931	159,935	102,874	33,920	43,369	25,586	57,060	23,542	8,837	24,681
1976	98,797	50,700	48,097	175,195	112,581	37,548	46,345	28,690	62,612	25,833	9,933	26,846
1977	113,202	59,267	53,935	189,214	121,601	40,251	50,620	30,730	67,613	27,398	11,003	29,212
1978	126,905	67,848	59,057	210,509	137,891	45,252	58,634	34,005	72,618	29,317	11,907	31,394
1979	143,936	76,060	67,876	241,100	160,533	52,687	69,254	38,592	80,567	32,451	13,741	34,375
1980	154,391	77,550	76,841	264,281	174,620	55,121	76,997	42,502	89,661	36,206	15,732	37,723
1981	168,129	83,872	84,257	282,645	186,347	57,927	81,105	47,315	96,298	37,758	16,074	42,466
1982	163,350	79,352	83,998	311,827	200,825	58,960	87,223	54,642	111,002	43,915	18,585	48,502
1983	171,242	84,956	86,286	312,647	200,406	60,203	87,643	52,560	112,241	44,643	18,842	48,756
1984	187,869	96,623	91,246	334,767	218,771	64,881	97,750	56,140	115,996	44,917	18,978	52,101
1985	190,016	99,019	90,996	327,496	214,066	62,229	97,253	54,584	113,439	42,964	18,926	51,540
1986	188,360	99,989	88,371	316,182	208,313	60,218	94,466	53,629	107,869	41,540	17,360	48,969
1987	199,170	105,291	93,879	331,132	216,598	61,255	99,952	55,391	114,534	44,354	18,752	51,428
1987: Jan	189,809	100,613	89,196	317,449	208,899	60,539	94,540	53,820	108,550	41,519	17,441	49,590
Feb	194,981	103,662	91,319	317,302	208,367	60,207	94,665	53,495	108,935	41,510	17,904	49,521
Mar	195,251	103,596	91,655	317,374	208,127	60,086	94,345	53,696	109,247	41,713	18,002	49,532
Apr	195,084	103,081	92,003	317,949	208,587	60,359	94,568	53,650	109,362	42,154	17,920	49,288
May	195,779	102,661	93,118	318,885	208,910	60,420	94,767	53,723	109,975	42,449	18,017	49,509
June	198,602	104,531	94,071	319,076	208,686	60,468	95,126	53,092	110,390	42,702	18,211	49,477
July	198,964	103,893	95,071	320,512	209,674	60,108	95,493	54,073	110,838	42,943	18,127	49,768
Aug	199,288	104,407	94,881	322,613	210,717	59,954	96,445	54,318	111,896	43,155	18,403	50,338
Sept	203,806	108,377	95,429	323,877	211,334	60,198	97,268	53,868	112,543	43,944	18,423	50,176
Oct	204,706	108,303	96,403	325,716	212,863	60,329	97,991	54,543	112,853	43,901	18,460	50,492
Nov	205,495	108,287	97,208	329,075	215,557	60,851	99,614	55,092	113,518	44,123	18,622	50,773
Dec	207,447	111,183	96,264	331,132	216,598	61,255	99,952	55,391	114,534	44,354	18,752	51,428
1988: Jan	206,283	109,125	97,158	333,374	218,507	61,753	100,751	56,003	114,867	44,694	18,759	51,414
Feb	206,932	109,829	97,103	335,416	219,913	61,830	101,955	56,128	115,503	44,858	18,810	52,035
Mar	211,778	112,744	99,034	336,695	220,523	62,552	101,709	56,262	116,172	45,458	18,891	51,823
Apr	213,036	112,521	100,515	337,936	221,405	62,541	102,665	56,199	116,531	45,578	19,061	51,892
May	215,777	114,751	101,026	340,074	222,948	63,105	103,678	56,165	117,126	45,790	19,075	52,261
June	218,881	116,522	102,359	341,963	224,000	63,522	104,112	56,366	117,963	46,255	19,050	52,658
July	216,698	113,122	103,576	343,788	225,467	64,138	104,257	57,072	118,321	46,350	19,218	52,753
Aug	221,715	117,866	103,849	345,798	226,600	64,998	103,927	57,675	119,198	46,931	19,163	53,104
Sept	221,395	118,030	103,365	347,785	228,214	65,253	104,440	58,521	119,571	47,364	19,110	53,097
Oct	222,540	118,278	104,262	349,908	230,012	65,437	105,326	59,249	119,896	47,715	19,023	53,158

[1] Monthly average for year and total for month.
[2] Seasonally adjusted, end of period. Data beginning 1982 are not comparable with data for prior periods.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

TABLE B–57.—*Manufacturers' new and unfilled orders, 1947–88*

[Amounts in millions of dollars; monthly data seasonally adjusted]

Year or month	New orders [1]				Unfilled orders [2]			Unfilled orders—shipments ratio [3]		
	Total	Durable goods industries		Nondurable goods industries	Total	Durable goods industries	Nondurable goods industries	Total	Durable goods industries	Nondurable goods industries
		Total	Capital goods industries, nondefense							
1947	15,256	6,388	.....	8,868	34,473	28,579	5,894	.....	.....	.....
1948	17,693	8,126	.....	9,566	30,736	26,619	4,117	.....	.....	.....
1949	15,614	6,633	.....	8,981	24,045	19,622	4,423	.....	.....	.....
1950	20,110	10,165	.....	9,945	41,456	35,435	6,021	.....	.....	.....
1951	23,907	12,841	.....	11,066	67,266	63,394	3,872	.....	.....	.....
1952	23,204	12,061	.....	11,143	75,857	72,680	3,177	.....	.....	.....
1953	23,586	12,147	.....	11,439	61,178	58,637	2,541	.....	.....	.....
1954	22,335	10,768	.....	11,566	48,266	45,250	3,016	3.42	4.12	0.96
1955	27,465	14,996	.....	12,469	60,004	56,241	3,763	3.63	4.27	1.12
1956	28,368	15,365	.....	13,003	67,375	63,880	3,495	3.87	4.55	1.04
1957	27,559	14,111	.....	13,448	53,183	50,352	2,831	3.35	4.00	.85
1958	27,002	13,290	.....	13,712	47,370	44,559	2,811	3.09	3.69	.86
1959	30,724	16,003	.....	14,720	52,732	49,373	3,359	3.01	3.54	.94
1960	30,235	15,303	.....	14,932	45,080	42,514	2,566	2.78	3.37	.72
1961	31,104	15,759	.....	15,345	47,407	44,375	3,032	2.63	3.13	.79
1962	33,436	17,374	.....	16,061	48,577	45,965	2,612	2.69	3.24	.68
1963	35,524	18,709	.....	16,815	54,327	51,270	3,057	2.80	3.37	.73
1964	38,357	20,652	.....	17,705	66,882	63,691	3,191	3.10	3.72	.72
1965	42,100	23,278	.....	18,823	80,071	76,298	3,773	3.33	3.95	.80
1966	46,402	26,177	.....	20,225	98,401	94,575	3,826	3.81	4.55	.76
1967	47,056	25,825	.....	21,231	104,547	100,576	3,971	3.70	4.40	.73
1968	50,687	28,116	6,903	22,571	109,926	105,950	3,976	3.85	4.65	.69
1969	53,950	29,871	7,660	24,079	115,422	111,250	4,172	3.75	4.50	.69
1970	52,038	27,388	6,738	24,650	106,158	101,566	4,592	3.65	4.53	.77
1971	55,983	29,998	7,444	25,986	107,147	102,119	5,027	3.38	4.06	.77
1972	64,167	35,064	8,622	29,104	121,061	114,725	6,336	3.31	3.90	.88
1973	76,056	42,726	10,971	33,330	158,884	151,504	7,380	3.86	4.55	.93
1974	87,244	46,835	12,673	40,409	188,467	182,925	5,542	4.13	4.96	.54
1975	85,220	42,099	11,011	43,122	172,037	164,139	7,898	3.76	4.52	.84
1976	99,532	51,403	12,791	48,129	180,562	172,273	8,288	3.30	3.94	.76
1977	115,103	61,128	15,242	53,975	204,946	196,244	8,702	3.29	3.90	.72
1978	131,650	72,416	19,420	59,234	262,415	251,525	10,890	3.62	4.25	.83
1979	147,574	79,586	23,221	67,987	306,540	294,272	12,268	3.93	4.66	.83
1980	156,318	79,482	23,242	76,836	329,884	317,677	12,207	3.88	4.62	.76
1981	167,883	83,657	24,012	84,226	327,356	315,529	11,827	3.87	4.67	.69
1982	162,273	78,338	21,661	83,935	314,270	303,187	11,083	3.88	4.78	.63
1983	174,122	87,500	22,098	86,522	349,419	335,367	14,052	3.59	4.34	.70
1984	189,791	98,581	26,243	91,209	372,586	358,899	13,687	3.64	4.41	.65
1985	190,918	99,843	27,067	91,075	383,181	368,427	14,754	3.72	4.51	.69
1986	188,663	100,166	26,551	88,497	387,065	370,700	16,365	3.63	4.43	.71
1987	201,966	107,770	29,707	94,197	421,243	400,720	20,523	3.65	4.41	.83
1987: Jan	186,765	97,336	27,205	89,429	384,021	367,423	16,598	3.70	4.53	.73
Feb	194,562	102,398	27,284	92,164	383,602	366,159	17,443	3.60	4.40	.75
Mar	196,911	104,785	26,877	92,126	385,262	367,348	17,914	3.59	4.38	.77
Apr	200,142	107,635	28,726	92,507	390,320	371,902	18,418	3.65	4.45	.79
May	200,969	107,920	30,631	93,049	395,510	377,161	18,349	3.69	4.51	.78
June	203,429	108,771	29,753	94,658	400,337	381,401	18,936	3.67	4.48	.79
July	205,490	109,935	32,280	95,555	406,863	387,443	19,420	3.71	4.54	.80
Aug	202,358	106,988	29,850	95,370	409,933	390,024	19,909	3.74	4.57	.82
Sept	205,340	109,677	29,393	95,663	411,467	391,324	20,143	3.64	4.40	.83
Oct	208,602	112,016	30,218	96,586	415,363	395,037	20,326	3.68	4.48	.82
Nov	209,258	111,961	30,655	97,297	419,126	398,711	20,415	3.70	4.51	.82
Dec	209,564	113,192	33,029	96,372	421,243	400,720	20,523	3.65	4.41	.83
1988: Jan	210,202	113,069	33,867	97,133	425,162	404,664	20,498	3.71	4.52	.82
Feb	211,283	114,155	33,819	97,128	429,513	408,990	20,523	3.74	4.55	.82
Mar	211,799	113,063	31,924	98,736	429,534	409,309	20,225	3.66	4.44	.80
Apr	217,029	116,836	33,746	100,193	433,527	413,624	19,903	3.68	4.50	.77
May	216,398	115,369	31,522	101,029	434,148	414,242	19,906	3.64	4.42	.77
June	228,090	125,442	35,458	102,648	443,357	423,162	20,195	3.67	4.44	.79
July	219,877	116,112	36,213	103,765	446,536	426,152	20,384	3.73	4.55	.79
Aug	227,009	122,806	38,808	104,203	451,830	431,092	20,738	3.68	4.46	.79
Sept	222,669	119,321	34,858	103,348	453,103	432,382	20,721	3.66	4.43	.79
Oct	226,208	122,058	33,811	104,150	456,771	436,162	20,609	3.70	4.49	.79

[1] Monthly average for year and total for month.
[2] Seasonally adjusted, end of period.
[3] Ratio of unfilled orders at end of period to shipments for period; excludes industries with no unfilled orders. Annual figures relate to seasonally adjusted data for December.

Note.—Data beginning 1958 are not strictly comparable with earlier data.

Source: Department of Commerce, Bureau of the Census.

TABLE B–58.—*Consumer price indexes, major expenditure classes, 1946–88*

[1982–84=100]

Year or month	All items	Food and beverages		Housing				Apparel and upkeep	Transportation	Medical care	Entertainment	Other goods and services	Energy [3]
		Total [1]	Food	Total	Shelter	Fuel and other utilities [2]	Household furnishings and operation						
1946	19.5		19.8					34.4	16.7	12.5			
1947	22.3		24.1					39.9	18.5	13.5			
1948	24.1		26.1					42.5	20.6	14.4			
1949	23.8		25.0					40.8	22.1	14.8			
1950	24.1		25.4					40.3	22.7	15.1			
1951	26.0		28.2					43.9	24.1	15.9			
1952	26.5		28.7					43.5	25.7	16.7			
1953	26.7		28.3		22.0	22.5		43.1	26.5	17.3			
1954	26.9		28.2		22.5	22.6		43.1	26.1	17.8			
1955	26.8		27.8		22.7	23.0		42.9	25.8	18.2			
1956	27.2		28.0		23.1	23.6		43.7	26.2	18.9			
1957	28.1		28.9		24.0	24.3		44.5	27.7	19.7			21.5
1958	28.9		30.2		24.5	24.8		44.6	28.6	20.6			21.5
1959	29.1		29.7		24.7	25.4		45.0	29.8	21.5			21.9
1960	29.6		30.0		25.2	26.0		45.7	29.8	22.3			22.4
1961	29.9		30.4		25.4	26.3		46.1	30.1	22.9			22.5
1962	30.2		30.6		25.8	26.3		46.3	30.8	23.5			22.6
1963	30.6		31.1		26.1	26.6		46.9	30.9	24.1			22.6
1964	31.0		31.5		26.5	26.6		47.3	31.4	24.6			22.5
1965	31.5		32.2		27.0	26.6		47.8	31.9	25.2			22.9
1966	32.4		33.8		27.8	26.7		49.0	32.3	26.3			23.3
1967	33.4	35.0	34.1	30.8	28.8	27.1	42.0	51.0	33.3	28.2	40.7	35.1	23.8
1968	34.8	36.2	35.3	32.0	30.1	27.4	43.6	53.7	34.3	29.9	43.0	36.9	24.2
1969	36.7	38.1	37.1	34.0	32.6	28.0	45.2	56.8	35.7	31.9	45.2	38.7	24.8
1970	38.8	40.1	39.2	36.4	35.5	29.1	46.8	59.2	37.5	34.0	47.5	40.9	25.5
1971	40.5	41.4	40.4	38.0	37.0	31.1	48.6	61.1	39.5	36.1	50.0	42.9	26.5
1972	41.8	43.1	42.1	39.4	38.7	32.5	49.7	62.3	39.9	37.3	51.5	44.7	27.2
1973	44.4	48.8	48.2	41.2	40.5	34.3	51.1	64.6	41.2	38.8	52.9	46.4	29.4
1974	49.3	55.5	55.1	45.8	44.4	40.7	56.8	69.4	45.8	42.4	56.9	49.8	38.1
1975	53.8	60.2	59.8	50.7	48.8	45.4	63.4	72.5	50.1	47.5	62.0	53.9	42.1
1976	56.9	62.1	61.6	53.8	51.5	49.4	67.3	75.2	55.1	52.0	65.1	57.0	45.1
1977	60.6	65.8	65.5	57.4	54.9	54.7	70.4	78.6	59.0	57.0	68.3	60.4	49.4
1978	65.2	72.2	72.0	62.4	60.5	58.5	74.7	81.4	61.7	61.8	71.9	64.3	52.5
1979	72.6	79.9	79.9	70.1	68.9	64.8	79.9	84.9	70.5	67.5	76.7	68.9	65.7
1980	82.4	86.7	86.8	81.1	81.0	75.4	86.3	90.9	83.1	74.9	83.6	75.2	86.0
1981	90.9	93.5	93.6	90.4	90.5	86.4	93.0	95.3	93.2	82.9	90.1	82.6	97.7
1982	96.5	97.3	97.4	96.9	96.9	94.9	98.0	97.8	97.0	92.5	96.0	91.1	99.2
1983	99.6	99.5	99.4	99.5	99.1	100.2	100.2	100.2	99.3	100.6	100.1	101.1	99.9
1984	103.9	103.2	103.2	103.6	104.0	104.8	101.9	102.1	103.7	106.8	103.8	107.9	100.9
1985	107.6	105.6	105.6	107.7	109.8	106.5	103.8	105.0	106.4	113.5	107.9	114.5	101.6
1986	109.6	109.1	109.0	110.9	115.8	104.1	105.2	105.9	102.3	122.0	111.6	121.4	88.2
1987	113.6	113.5	113.5	114.2	121.3	103.0	107.1	110.6	105.4	130.1	115.3	128.5	88.6
1987: Jan	111.2	112.1	112.1	112.0	118.5	101.1	106.3	105.6	102.6	126.6	113.3	125.5	83.9
Feb	111.6	112.5	112.5	112.4	119.0	101.4	106.5	106.2	103.1	127.4	113.5	126.1	85.6
Mar	112.1	112.5	112.5	112.8	119.6	101.5	106.8	109.7	103.3	128.1	113.9	126.3	85.8
Apr	112.7	112.8	112.8	113.2	120.2	101.3	107.2	111.5	104.2	128.7	114.5	126.6	86.4
May	113.1	113.3	113.3	113.6	120.5	102.2	107.1	111.1	104.7	129.2	114.8	126.9	87.4
June	113.5	113.8	113.8	114.3	120.8	104.9	107.1	109.3	105.4	129.9	114.9	127.2	90.7
July	113.8	113.7	113.7	114.7	121.3	105.0	107.2	107.3	106.0	130.7	115.4	128.0	91.1
Aug	114.4	113.8	113.8	115.4	122.2	105.9	107.3	109.4	106.5	131.2	115.6	128.5	92.7
Sept	115.0	114.2	114.1	115.6	122.5	105.5	107.5	113.3	106.6	131.7	116.1	131.1	92.3
Oct	115.3	114.3	114.3	115.5	123.2	103.2	107.4	115.4	107.1	132.3	116.9	131.6	89.8
Nov	115.4	114.3	114.2	115.5	123.4	102.4	107.4	115.4	107.8	132.8	117.3	131.8	89.0
Dec	115.4	114.8	114.7	115.6	123.7	102.0	107.3	112.7	107.6	133.1	117.4	132.1	88.3
1988: Jan	115.7	115.7	115.7	116.2	124.6	102.4	107.5	110.4	107.1	134.4	118.1	133.4	87.4
Feb	116.0	115.8	115.7	116.6	125.0	102.8	107.7	110.2	106.8	135.5	118.3	134.2	87.0
Mar	116.5	116.0	115.9	117.0	125.6	102.7	108.3	114.3	106.5	136.3	119.0	134.6	86.5
Apr	117.1	116.7	116.6	117.3	125.8	102.8	109.1	117.0	107.2	136.9	119.6	134.8	87.3
May	117.5	117.1	117.0	117.7	126.2	103.5	109.3	116.3	108.1	137.5	119.7	135.1	88.7
June	118.0	117.6	117.6	118.6	126.6	105.9	109.6	114.6	108.5	138.2	120.1	135.5	91.0
July	118.5	118.8	118.8	119.1	127.4	106.0	109.8	112.7	108.9	139.3	120.5	136.5	91.4
Aug	119.0	119.4	119.4	119.5	128.2	106.1	109.7	112.6	109.6	139.9	120.7	137.5	92.3
Sept	119.8	120.1	120.2	119.9	128.4	106.4	110.1	117.8	109.7	140.4	121.3	140.0	91.9
Oct	120.2	120.3	120.3	119.9	128.8	105.4	110.3	120.7	110.0	141.2	121.8	140.6	89.9
Nov	120.3	120.2	120.2	119.9	129.1	104.3	110.6	119.9	110.7	141.8	122.2	141.0	88.9

[1] Includes alcoholic beverages, not shown separately.
[2] See table B–59 for components.
[3] See tables B–60 for definition and B–59 for components.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. Data beginning 1983 incorporate a rental equivalence measure for homeowners' costs and therefore are not strictly comparable with earlier figures.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–59.—*Consumer price indexes, selected expenditure classes, 1946–88*

[1982–84=100, except as noted]

Year or month	Food and beverages				Shelter					Fuel and other utilities				
		Food				Renters' costs					Household fuels			
	Total [1]	Total	At home	Away from home	Total	Total [2]	Rent, residential	Homeowners' costs [2]	Home maintenance and repairs	Total	Total	Fuel oil and other household fuel commodities	Gas (piped) and electricity	Other utilities and public services
1946		19.8					25.0					7.9	18.3	
1947		24.1	25.8				25.8					9.0	18.2	
1948		26.1	28.0				27.5					10.6	18.7	
1949		25.0	26.9				28.7					10.9	19.2	
1950		25.4	27.3				29.7					11.3	19.2	
1951		28.2	30.3				30.9					11.8	19.3	
1952		28.7	30.8				32.2					12.1	19.5	
1953		28.3	30.3	21.5	22.0		33.9		20.5	22.5		12.6	19.9	
1954		28.2	30.1	21.9	22.5		35.1		20.9	22.6		12.6	20.2	
1955		27.8	29.5	22.1	22.7		35.6		21.4	23.0		12.7	20.7	
1956		28.0	29.6	22.6	23.1		36.3		22.3	23.6		13.3	20.9	
1957		28.9	30.6	23.4	24.0		37.0		23.2	24.3		14.0	21.1	
1958		30.2	32.0	24.1	24.5		37.6		23.6	24.8		13.7	21.9	
1959		29.7	31.2	24.8	24.7		38.2		24.0	25.4		13.9	22.4	
1960		30.0	31.5	25.4	25.2		38.7		24.4	26.0		13.8	23.3	
1961		30.4	31.8	26.0	25.4		39.2		24.8	26.3		14.1	23.5	
1962		30.6	32.0	26.7	25.8		39.7		25.0	26.3		14.2	23.5	
1963		31.1	32.4	27.3	26.1		40.1		25.3	26.6		14.4	23.5	
1964		31.5	32.7	27.8	26.5		40.5		25.8	26.6		14.4	23.5	
1965		32.2	33.5	28.4	27.0		40.9		26.3	26.6		14.6	23.5	
1966		33.8	35.2	29.7	27.8		41.5		27.5	26.7		15.0	23.6	
1967	35.0	34.1	35.1	31.3	28.8		42.2		28.9	27.1	21.4	15.5	23.7	46.6
1968	36.2	35.3	36.3	32.9	30.1		43.3		30.6	27.4	21.7	16.0	23.9	47.1
1969	38.1	37.1	38.0	34.9	32.6		44.7		33.2	28.0	22.1	16.3	24.3	48.4
1970	40.1	39.2	39.9	37.5	35.5		46.5		35.8	29.1	23.1	17.0	25.4	50.0
1971	41.4	40.4	40.9	39.4	37.0		48.7		38.6	31.1	24.7	18.2	27.1	53.4
1972	43.1	42.1	42.7	41.0	38.7		50.4		40.6	32.5	25.7	18.3	28.5	56.2
1973	48.8	48.2	49.7	44.2	40.5		52.5		43.6	34.3	27.5	21.1	29.9	57.8
1974	55.5	55.1	57.1	49.8	44.4		55.2		49.5	40.7	34.4	33.2	34.5	60.7
1975	60.2	59.8	61.8	54.5	48.8		58.0		54.1	45.4	39.4	36.4	40.1	63.9
1976	62.1	61.6	63.1	58.2	51.5		61.1		57.6	49.4	43.3	38.8	44.7	67.7
1977	65.8	65.5	66.8	62.6	54.9		64.8		62.0	54.7	49.0	43.9	50.5	70.8
1978	72.2	72.0	73.8	68.3	60.5		69.3		67.2	58.5	53.0	46.2	55.0	73.7
1979	79.9	79.9	81.8	75.9	68.9		74.3		74.0	64.8	61.3	62.4	61.0	74.3
1980	86.7	86.8	88.4	83.4	81.0		80.9		82.4	75.4	74.8	86.1	71.4	77.0
1981	93.5	93.6	94.8	90.9	90.5		87.9		90.7	86.4	87.2	104.6	81.9	84.3
1982	97.3	97.4	98.1	95.8	96.9		94.6		96.4	94.9	95.6	103.4	93.2	93.3
1983	99.5	99.4	99.1	100.0	99.1	103.0	100.1	102.5	99.9	100.2	100.5	97.2	101.5	99.5
1984	103.2	103.2	102.8	104.2	104.0	108.6	105.3	107.3	103.7	104.8	104.0	99.4	105.4	107.2
1985	105.6	105.6	104.3	108.3	109.8	115.4	111.8	113.1	106.5	106.5	104.5	95.9	107.1	112.1
1986	109.1	109.0	107.3	112.5	115.8	121.9	118.3	119.4	107.9	104.1	99.2	77.6	105.7	117.9
1987	113.5	113.5	111.9	117.0	121.3	128.1	123.1	124.8	111.8	103.0	97.3	77.9	103.8	120.1
1987: Jan.	112.1	112.1	110.7	115.2	118.5	125.3	121.3	122.0	110.3	101.1	95.0	75.5	101.5	118.7
Feb.	112.5	112.5	111.2	115.5	119.0	125.8	121.7	122.5	110.2	101.4	95.3	77.9	101.5	119.1
Mar.	112.5	112.5	110.9	115.9	119.6	126.4	121.8	123.0	110.7	101.5	95.2	77.5	101.5	119.3
Apr.	112.8	112.8	111.3	116.1	120.2	127.1	122.0	123.6	110.3	101.3	94.7	77.5	100.8	119.7
May	113.3	113.3	112.0	116.4	120.5	127.3	122.3	124.0	110.2	102.2	96.1	77.1	102.5	119.8
June	113.8	113.8	112.6	116.8	120.8	127.9	122.3	124.2	111.1	104.9	100.8	77.2	108.1	119.4
July	113.7	113.7	112.1	117.2	121.3	129.3	123.0	124.4	113.2	105.0	100.4	77.1	107.6	120.5
Aug.	113.8	113.8	112.1	117.5	122.2	130.1	123.8	125.4	112.9	105.9	101.4	77.8	108.7	121.1
Sept.	114.2	114.1	112.4	118.0	122.5	129.8	124.4	126.0	112.7	105.5	101.0	77.6	108.2	120.8
Oct.	114.3	114.3	112.4	118.3	123.2	129.4	124.8	127.1	112.8	103.2	96.9	78.5	103.3	121.2
Nov.	114.3	114.2	112.1	118.6	123.4	129.2	124.8	127.4	113.5	102.4	95.5	80.3	101.4	121.3
Dec.	114.8	114.7	112.8	118.9	123.7	129.1	125.6	128.0	113.3	102.0	95.1	80.5	100.9	120.9
1988: Jan.	115.7	115.7	114.1	119.3	124.6	130.8	126.0	128.5	113.7	102.4	95.6	80.8	101.5	121.3
Feb.	115.8	115.7	113.9	119.7	125.0	131.3	126.3	129.0	114.3	102.8	96.0	80.9	101.9	121.8
Mar.	116.0	115.9	113.9	120.2	125.6	132.9	126.4	129.2	113.3	102.7	95.8	80.5	101.7	122.7
Apr.	116.7	116.6	114.6	120.7	125.8	132.9	126.6	129.4	115.3	102.8	95.7	80.2	101.6	122.3
May	117.1	117.0	115.1	121.0	126.2	133.1	126.9	129.9	114.3	103.5	96.5	80.0	102.6	122.6
June	117.6	117.6	115.8	121.5	126.6	133.7	127.3	130.4	114.7	105.9	100.8	79.1	107.8	122.3
July	118.8	118.8	117.3	122.1	127.4	134.7	127.8	131.0	114.5	106.0	100.8	76.9	108.1	122.4
Aug.	119.4	119.4	118.1	122.5	128.2	135.6	128.4	131.8	115.0	106.1	100.9	76.3	108.3	122.6
Sept.	120.1	120.2	119.0	123.0	128.4	134.7	129.1	132.6	115.3	106.4	101.0	75.9	108.5	123.3
Oct.	120.3	120.3	119.0	123.4	128.8	134.8	129.4	133.1	115.0	105.4	98.6	74.6	105.8	124.5
Nov.	120.2	120.2	118.7	123.7	129.1	134.2	129.8	133.8	115.4	104.3	96.8	75.0	103.7	124.4

[1] Includes alcoholic beverages, not shown separately.
[2] December 1982=100.

See next page for continuation of table.

TABLE B–59.—*Consumer price indexes, selected expenditure classes, 1946–88*—Continued

[1982–84=100, except as noted]

Year or month	Transportation								Medical care		
		Private transportation						Public transportation			
	Total	Total [3]	New cars	Used cars	Motor fuel [4]	Automobile maintenance and repair	Other		Total	Medical care commodities	Medical care services
1946	16.7	18.3	.....	.....	14.5	15.8	.....	9.4	12.5	34.2	10.4
1947	18.5	20.8	34.1	.....	16.4	17.1	.....	9.9	13.5	36.7	11.3
1948	20.6	23.0	37.3	.....	18.6	18.1	.....	11.2	14.4	38.6	12.1
1949	22.1	24.4	40.8	.....	19.1	18.6	.....	12.4	14.8	39.2	12.5
1950	22.7	24.5	41.1	.....	19.0	18.9	.....	13.4	15.1	39.7	12.8
1951	24.1	25.6	43.1	.....	19.5	20.4	.....	14.8	15.9	40.8	13.4
1952	25.7	27.3	46.8	.....	20.0	20.8	.....	15.8	16.7	41.2	14.3
1953	26.5	27.8	47.2	26.7	21.2	22.0	.....	16.8	17.3	41.5	14.8
1954	26.1	27.1	46.5	22.7	21.8	22.7	.....	18.0	17.8	42.0	15.3
1955	25.8	26.7	44.8	21.5	22.1	23.2	.....	18.5	18.2	42.5	15.7
1956	26.2	27.1	46.1	20.7	22.8	24.2	.....	19.2	18.9	43.4	16.3
1957	27.7	28.6	48.5	23.2	23.8	25.0	.....	19.9	19.7	44.6	17.0
1958	28.6	29.5	50.0	24.0	23.4	25.4	.....	20.9	20.6	46.1	17.9
1959	29.8	30.8	52.2	26.8	23.7	26.0	.....	21.5	21.5	46.8	18.7
1960	29.8	30.6	51.5	25.0	24.4	26.5	.....	22.2	22.3	46.9	19.5
1961	30.1	30.8	51.5	26.0	24.1	27.1	.....	23.2	22.9	46.3	20.2
1962	30.8	31.4	51.3	28.4	24.3	27.5	.....	24.0	23.5	45.6	20.9
1963	30.9	31.6	51.0	28.7	24.2	27.8	.....	24.3	24.1	45.2	21.5
1964	31.4	32.0	50.9	30.0	24.1	28.2	.....	24.7	24.6	45.1	22.0
1965	31.9	32.5	49.7	29.8	25.1	28.7	.....	25.2	25.2	45.0	22.7
1966	32.3	32.9	48.8	29.0	25.6	29.2	.....	26.1	26.3	45.1	23.9
1967	33.3	33.8	49.3	29.9	26.4	30.4	37.9	27.4	28.2	44.9	26.0
1968	34.3	34.8	50.7	(5)	26.8	32.1	39.2	28.7	29.9	45.0	27.9
1969	35.7	36.0	51.5	30.9	27.6	34.1	41.6	30.9	31.9	45.4	30.2
1970	37.5	37.5	53.0	31.2	27.9	36.6	45.2	35.2	34.0	46.5	32.3
1971	39.5	39.4	55.2	33.0	28.1	39.3	48.6	37.8	36.1	47.3	34.7
1972	39.9	39.7	54.7	33.1	28.4	41.1	48.9	39.3	37.3	47.4	35.9
1973	41.2	41.0	54.8	35.2	31.2	43.2	48.4	39.7	38.8	47.5	37.5
1974	45.8	46.2	57.9	36.7	42.2	47.6	50.2	40.6	42.4	49.2	41.4
1975	50.1	50.6	62.9	43.8	45.1	53.7	53.5	43.5	47.5	53.3	46.6
1976	55.1	55.6	66.9	50.3	47.0	57.6	61.8	47.8	52.0	56.5	51.3
1977	59.0	59.7	70.4	54.7	49.7	61.9	67.2	50.0	57.0	60.2	56.4
1978	61.7	62.5	75.8	55.8	51.8	67.0	69.9	51.5	61.8	64.4	61.2
1979	70.5	71.7	81.8	60.2	70.1	73.7	75.2	54.9	67.5	69.0	67.2
1980	83.1	84.2	88.4	62.3	97.4	81.5	84.3	69.0	74.9	75.4	74.8
1981	93.2	93.8	93.7	76.9	108.5	89.2	91.4	85.6	82.9	83.7	82.8
1982	97.0	97.1	97.4	88.8	102.8	96.0	97.7	94.9	92.5	92.3	92.6
1983	99.3	99.3	99.9	98.7	99.4	100.3	98.8	99.5	100.6	100.2	100.7
1984	103.7	103.6	102.8	112.5	97.9	103.8	103.5	105.7	106.8	107.5	106.7
1985	106.4	106.2	106.1	113.7	98.7	106.8	109.0	110.5	113.5	115.2	113.2
1986	102.3	101.2	110.6	108.8	77.1	110.3	115.1	117.0	122.0	122.8	121.9
1987	105.4	104.2	114.6	113.1	80.2	114.8	120.8	121.1	130.1	131.0	130.0
1987: Jan	102.6	101.3	114.8	106.2	72.8	112.8	119.3	120.4	126.6	126.7	126.6
Feb	103.1	101.8	113.5	106.9	76.0	113.3	118.9	120.6	127.4	127.4	127.4
Mar	103.3	102.0	113.1	108.7	76.6	113.3	119.1	121.1	128.1	128.5	128.0
Apr	104.2	103.0	113.6	11.3	78.5	114.3	119.4	120.9	128.7	129.0	128.7
May	104.7	103.5	114.0	113.4	79.1	114.3	119.7	120.6	129.2	129.9	129.0
June	105.4	104.3	114.3	114.7	80.8	114.4	120.3	120.2	129.9	130.8	129.6
July	106.0	104.9	114.7	115.4	82.2	114.5	120.8	120.2	130.7	131.6	130.4
Aug	106.5	105.4	114.4	115.5	84.3	115.1	120.7	121.5	131.2	132.2	131.0
Sept	106.6	105.4	114.1	116.0	84.0	115.7	121.1	122.1	131.7	132.7	131.5
Oct	107.1	106.0	115.2	116.2	83.2	116.1	122.8	121.2	132.3	133.5	132.0
Nov	107.8	106.8	116.6	116.5	83.2	116.5	123.8	122.0	132.8	134.2	132.5
Dec	107.6	106.5	116.6	116.3	82.0	116.9	123.8	122.1	133.1	134.9	132.7
1988: Jan	107.1	106.0	116.2	116.0	79.7	117.2	124.7	121.8	134.4	135.4	134.1
Feb	106.8	105.7	116.2	116.0	78.3	117.7	125.0	120.8	135.5	136.1	135.3
Mar	106.5	105.4	116.0	116.1	77.5	118.5	124.9	121.4	136.3	137.0	136.1
Apr	107.2	106.0	115.9	116.6	79.4	118.8	125.0	122.4	136.9	138.1	136.6
May	108.1	107.0	116.3	117.0	81.4	119.3	126.3	122.4	137.5	139.0	137.2
June	108.5	107.4	116.5	117.6	81.4	119.7	127.2	123.2	138.2	139.4	137.9
July	108.9	107.8	116.5	117.9	82.3	120.0	127.5	123.7	139.3	140.5	139.0
Aug	109.6	108.6	116.3	119.2	84.1	120.3	128.7	123.7	139.9	141.1	139.6
Sept	109.7	108.6	116.8	119.4	83.1	120.9	129.3	124.0	140.4	142.0	140.1
Oct	110.0	109.0	117.7	119.9	81.6	121.1	131.0	124.2	141.2	143.2	140.8
Nov	110.7	109.6	118.7	119.7	81.5	121.5	132.1	125.3	141.8	143.3	141.5

[3] Includes direct pricing of new trucks and motorcycles beginning September 1982.
[4] Includes direct pricing of diesel fuel and gasohol beginning September 1981.
[5] Not available.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table B–58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–60.—*Consumer price indexes, commodities, services, and special groups, 1946–88*

[1982–84=100]

Year or month	All items	Commodities					Services			Special indexes			
		All commodities	Food	Commodities less food			All services	Medical care services	Services less medical care	All items less food	All items less energy	All items less food and energy	Energy [1]
				All	Durable	Nondurable							
1946	19.5	22.9	19.8	26.3	29.2	23.6	14.1	10.4	.....	19.8	.....	.....	.....
1947	22.3	27.6	24.1	29.7	31.7	27.1	14.7	11.3	.....	21.7	.....	.....	.....
1948	24.1	29.6	26.1	31.9	34.0	29.2	15.6	12.1	.....	23.3	.....	.....	.....
1949	23.8	28.8	25.0	31.5	34.5	28.7	16.4	12.5	.....	23.5	.....	.....	.....
1950	24.1	29.0	25.4	31.4	34.9	28.6	16.9	12.8	.....	23.8	.....	.....	.....
1951	26.0	31.6	28.2	33.8	37.5	30.8	17.8	13.4	.....	25.3	.....	.....	.....
1952	26.5	32.0	28.7	34.1	38.0	31.0	18.6	14.3	.....	25.9	.....	.....	.....
1953	26.7	31.9	28.3	34.2	37.7	31.2	19.4	14.8	.....	26.4	.....	.....	.....
1954	26.9	31.6	28.2	33.8	36.8	31.4	20.0	15.3	.....	26.6	.....	.....	.....
1955	26.8	31.3	27.8	33.6	36.1	31.4	20.4	15.7	.....	26.6	.....	.....	.....
1956	27.2	31.6	28.0	33.9	36.1	32.0	20.9	16.3	.....	27.1	.....	.....	.....
1957	28.1	32.6	28.9	34.9	37.2	32.9	21.8	17.0	22.8	28.0	28.9	28.9	21.5
1958	28.9	33.3	30.2	35.3	37.8	33.1	22.6	17.9	23.6	28.6	29.7	29.6	21.5
1959	29.1	33.3	29.7	35.8	38.4	33.5	23.3	18.7	24.2	29.2	29.9	30.2	21.9
1960	29.6	33.6	30.0	36.0	38.1	34.1	24.1	19.5	25.0	29.7	30.4	30.6	22.4
1961	29.9	33.8	30.4	36.1	38.1	34.3	24.5	20.2	25.4	30.0	30.7	31.0	22.5
1962	30.2	34.1	30.6	36.3	38.5	34.5	25.0	20.9	25.9	30.3	31.1	31.4	22.6
1963	30.6	34.4	31.1	36.6	38.6	34.8	25.5	21.5	26.3	30.7	31.5	31.8	22.6
1964	31.0	34.8	31.5	36.9	39.0	35.1	26.0	22.0	26.8	31.1	32.0	32.3	22.5
1965	31.5	35.2	32.2	37.2	38.8	35.6	26.6	22.7	27.4	31.6	32.5	32.7	22.9
1966	32.4	36.1	33.8	37.7	38.9	36.4	27.6	23.9	28.3	32.3	33.5	33.5	23.3
1967	33.4	36.8	34.1	38.6	39.4	37.6	28.8	26.0	29.3	33.4	34.4	34.7	23.8
1968	34.8	38.1	35.3	40.0	40.7	39.1	30.3	27.9	30.8	34.9	35.9	36.3	24.2
1969	36.7	39.9	37.1	41.7	42.2	40.9	32.4	30.2	32.9	36.8	38.0	38.4	24.8
1970	38.8	41.7	39.2	43.4	44.1	42.5	35.0	32.3	35.6	39.0	40.3	40.8	25.5
1971	40.5	43.2	40.4	45.1	46.0	44.0	37.0	34.7	37.5	40.8	42.0	42.7	26.5
1972	41.8	44.5	42.1	46.1	46.9	45.0	38.4	35.9	38.9	42.0	43.4	44.0	27.2
1973	44.4	47.8	48.2	47.7	48.1	46.9	40.1	37.5	40.6	43.7	46.1	45.6	29.4
1974	49.3	53.5	55.1	52.8	51.5	52.9	43.8	41.4	44.3	48.0	50.6	49.4	38.1
1975	53.8	58.2	59.8	57.6	57.4	57.0	48.0	46.6	48.3	52.5	55.1	53.9	42.1
1976	56.9	60.7	61.6	60.5	60.9	59.5	52.0	51.3	52.2	56.0	58.2	57.4	45.1
1977	60.6	64.2	65.5	63.8	64.4	62.5	56.0	56.4	55.9	59.6	61.9	61.0	49.4
1978	65.2	68.8	72.0	67.5	68.6	65.5	60.8	61.2	60.7	63.9	66.7	65.5	52.5
1979	72.6	76.6	79.9	75.3	75.4	74.6	67.5	67.2	67.5	71.2	73.4	71.9	65.7
1980	82.4	86.0	86.8	85.7	83.0	88.4	77.9	74.8	78.2	81.5	81.9	80.8	86.0
1981	90.9	93.2	93.6	93.1	89.6	96.7	88.1	82.8	88.7	90.4	90.1	89.2	97.7
1982	96.5	97.0	97.4	96.9	95.1	98.3	96.0	92.6	96.4	96.3	96.1	95.8	99.2
1983	99.6	99.8	99.4	100.0	99.8	100.0	99.4	100.7	99.2	99.7	99.6	99.6	99.9
1984	103.9	103.2	103.2	103.1	105.1	101.7	104.6	106.7	104.4	104.0	104.3	104.6	100.9
1985	107.6	105.4	105.6	105.2	106.8	104.1	109.9	113.2	109.6	108.0	108.4	109.1	101.6
1986	109.6	104.4	109.0	101.7	106.6	98.5	115.4	121.9	114.6	109.8	112.6	113.5	88.2
1987	113.6	107.7	113.5	104.3	108.2	101.8	120.2	130.0	119.1	113.6	117.2	118.2	88.6
1987: Jan.	111.2	105.3	112.1	101.4	107.4	97.4	117.7	126.6	116.7	111.0	115.0	115.8	83.9
Feb.	111.6	105.8	112.5	102.0	107.0	98.6	118.1	127.4	117.0	111.4	115.3	116.1	85.6
Mar.	112.1	106.4	112.5	102.9	107.2	100.1	118.5	128.0	117.4	112.0	115.8	116.8	85.8
Apr.	112.7	107.2	112.8	103.9	107.7	101.3	118.9	128.7	117.8	112.7	116.4	117.4	86.4
May	113.1	107.5	113.3	104.0	107.9	101.4	119.3	129.0	118.2	113.0	116.7	117.6	87.4
June	113.5	107.7	113.8	104.1	108.2	101.4	120.1	129.6	119.0	113.5	116.9	117.7	90.7
July	113.8	107.6	113.7	104.1	108.4	101.3	120.5	130.4	119.4	113.8	117.1	118.0	91.1
Aug.	114.4	108.2	113.8	104.9	108.3	102.6	121.2	131.0	120.1	114.5	117.6	118.6	92.7
Sept.	115.0	108.9	114.1	105.7	108.3	104.0	121.7	131.5	120.6	115.1	118.3	119.4	92.3
Oct.	115.3	109.3	114.3	106.3	108.8	104.6	121.9	132.0	120.8	115.5	118.9	120.1	89.8
Nov.	115.4	109.5	114.2	106.7	109.6	104.8	122.0	132.5	120.8	115.7	119.2	120.5	89.0
Dec.	115.4	109.3	114.7	106.0	109.5	103.7	122.2	132.7	121.0	115.5	119.2	120.4	88.3
1988: Jan.	115.7	109.2	115.7	105.5	109.4	102.8	122.9	134.1	121.7	115.7	119.7	120.8	87.4
Feb.	116.0	109.1	115.7	105.4	109.4	102.7	123.4	135.3	122.1	116.0	120.0	121.1	87.0
Mar.	116.5	109.8	115.9	106.3	109.5	104.1	123.8	136.1	122.4	116.6	120.6	121.9	86.5
Apr.	117.1	110.7	116.6	107.3	109.7	105.6	124.1	136.6	122.8	117.2	121.2	122.4	87.3
May	117.5	111.1	117.0	107.6	109.9	106.0	124.6	137.2	123.2	117.6	121.5	122.7	88.7
June	118.0	111.1	117.6	107.4	110.2	105.5	125.5	137.9	124.1	118.1	121.8	123.0	91.0
July	118.5	111.5	118.8	107.4	110.3	105.4	126.1	139.0	124.7	118.4	122.3	123.3	91.4
Aug.	119.0	111.9	119.4	107.7	110.3	105.9	126.7	139.6	125.3	118.9	122.8	123.8	92.3
Sept.	119.8	113.0	120.2	108.9	110.6	107.7	127.3	140.1	125.9	119.7	123.8	124.7	91.9
Oct.	120.2	113.5	120.3	109.5	111.1	108.3	127.6	140.8	126.2	120.2	124.4	125.5	89.9
Nov.	120.3	113.5	120.2	109.7	111.8	108.2	127.8	141.5	126.3	120.3	124.7	125.8	88.9

[1] Household fuels—gas (piped), electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table B–58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–61.—*Changes in special consumer price indexes, 1958–88*

[Percent change]

Year or month	All items		All items less food		All items less energy		All items less food and energy		All items less food, energy, and shelter	
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1958	1.8	2.8	1.8	2.1	2.1	2.8	1.7	2.4		
1959	1.7	.7	2.1	2.1	1.3	.7	2.0	2.0		
1960	1.4	1.7	1.0	1.7	1.3	1.7	1.0	1.3		
1961	.7	1.0	1.3	1.0	.7	1.0	1.3	1.3		
1962	1.3	1.0	1.0	1.0	1.3	1.3	1.3	1.3		
1963	1.6	1.3	1.6	1.3	1.9	1.3	1.6	1.3		
1964	1.0	1.3	1.0	1.3	1.3	1.6	1.2	1.6		
1965	1.9	1.6	1.6	1.6	1.9	1.6	1.5	1.2		
1966	3.5	2.9	3.5	2.2	3.4	3.1	3.3	2.4		
1967	3.0	3.1	3.3	3.4	3.2	2.7	3.8	3.6		
1968	4.7	4.2	5.0	4.5	4.9	4.4	5.1	4.6	4.6	4.7
1969	6.2	5.5	5.6	5.4	6.5	5.8	6.2	5.8	5.1	4.7
1970	5.6	5.7	6.6	6.0	5.4	6.1	6.6	6.3	5.8	5.2
1971	3.3	4.4	3.0	4.6	3.4	4.2	3.1	4.7	3.1	4.9
1972	3.4	3.2	2.9	2.9	3.5	3.3	3.0	3.0	2.7	2.4
1973	8.7	6.2	5.6	4.0	8.2	6.2	4.7	3.6	3.5	2.9
1974	12.3	11.0	12.2	9.8	11.7	9.8	11.1	8.3	11.3	7.7
1975	6.9	9.1	7.3	9.4	6.6	8.9	6.7	9.1	6.4	8.9
1976	4.9	5.8	6.1	6.7	4.8	5.6	6.1	6.5	6.9	7.1
1977	6.7	6.5	6.4	6.4	6.7	6.4	6.5	6.3	5.3	6.0
1978	9.0	7.6	8.3	7.2	9.1	7.8	8.5	7.4	6.4	5.6
1979	13.3	11.3	14.0	11.4	11.1	10.0	11.3	9.8	7.3	6.9
1980	12.5	13.5	13.0	14.5	11.7	11.6	12.2	12.4	9.8	8.8
1981	8.9	10.3	9.8	10.9	8.5	10.0	9.5	10.4	9.4	9.6
1982	3.8	6.2	4.1	6.5	4.2	6.7	4.5	7.4	6.1	7.7
1983	3.8	3.2	4.1	3.5	4.5	3.6	4.8	4.0	5.0	5.2
1984	3.9	4.3	3.9	4.3	4.4	4.7	4.7	5.0	4.3	5.0
1985	3.8	3.6	4.1	3.8	4.0	3.9	4.3	5.3	3.7	3.8
1986	1.1	1.9	.5	1.7	3.8	3.9	3.8	4.0	3.3	3.4
1987	4.4	3.6	4.6	3.5	4.1	4.1	4.2	4.1	3.8	3.8
	Change from preceding period									
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1987: Jan	0.6	0.7	0.5	0.6	0.4	0.5	0.3	0.4	0.1	0.5
Feb	.4	.4	.4	.4	.3	.2	.3	.3	.2	.2
Mar	.4	.4	.5	.5	.4	.4	.6	.5	.7	.4
Apr	.5	.4	.6	.4	.5	.5	.5	.4	.5	.5
May	.4	.4	.3	.3	.3	.3	.2	.3	.2	.3
June	.4	.3	.4	.3	.2	.3	.1	.2	0	.2
July	.3	.3	.3	.4	.2	.3	.3	.3	.1	.2
Aug	.5	.4	.6	.5	.4	.3	.5	.4	.4	.3
Sept	.5	.3	.5	.2	.6	.3	.7	.2	.9	.3
Oct	.3	.3	.3	.3	.5	.4	.6	.5	.7	.5
Nov	.1	.3	.2	.3	.3	.3	.3	.3	.3	.3
Dec	0	.2	−.2	.1	0	.3	−.1	.2	−.3	0
1988: Jan	.3	.3	.2	.4	.4	.5	.3	.5	.1	.5
Feb	.3	.2	.3	.3	.3	.2	.2	.2	.3	.3
Mar	.4	.5	.5	.4	.5	.5	.7	.6	.8	.5
Apr	.5	.4	.5	.4	.5	.4	.4	.4	.6	.6
May	.3	.3	.3	.3	.2	.4	.2	.2	.2	.3
June	.4	.3	.4	.3	.2	.3	.2	.4	.1	.2
July	.4	.4	.3	.3	.4	.5	.2	.3	.1	.3
Aug	.4	.4	.4	.3	.4	.3	.4	.2	.2	.2
Sept	.7	.3	.7	.3	.8	.4	.7	.4	1.1	.5
Oct	.3	.4	.4	.4	.5	.5	.6	.5	.8	.7
Nov	.1	.3	.1	.3	.2	.2	.2	.3	.2	.2

[1] Changes from December to December are based on unadjusted indexes.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table B–58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–62.—*Changes in consumer price indexes, commodities and services, 1929–87*

[Percent change]

Year	All items		Commodities						Services				Energy[2]	
			Total		Food		Commodities less food		Total		Medical care services			
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1929	0.6	0			2.5	1.2								
1933	.8	−5.1			6.9	−2.8								
1939	0	−1.4	−0.7	−2.0	−2.5	−2.5	0.5	−1.6	0	0	1.2	1.2		
1940	.7	.7	1.4	.7	2.5	1.7	.5	.5	.8	.8	0	0		
1941	9.9	5.0	13.3	6.7	15.7	9.2	10.7	5.4	2.4	.8	1.2	0		
1942	9.0	10.9	12.9	14.5	17.9	17.6	6.3	10.8	2.3	3.1	3.5	3.5		
1943	3.0	6.1	4.2	9.3	3.0	11.0	5.5	4.6	2.3	2.3	5.6	4.5		
1944	2.3	1.7	2.0	1.0	0	−1.2	4.7	5.3	2.2	2.2	3.2	4.3		
1945	2.2	2.3	2.9	3.0	3.5	2.4	3.3	4.2	.7	1.5	3.1	3.1		
1946	18.1	8.3	24.8	10.6	31.3	14.5	12.7	6.0	3.6	1.4	9.0	5.1		
1947	8.8	14.4	10.3	20.5	11.3	21.7	9.2	12.9	5.6	4.3	6.4	8.7		
1948	3.0	8.1	1.7	7.2	−.8	8.3	5.2	7.4	5.9	6.1	6.9	7.1		
1949	−2.1	−1.2	−4.1	−2.7	−3.9	−4.2	−4.6	−1.3	3.7	5.1	1.6	3.3		
1950	5.9	1.3	7.8	.7	9.8	1.6	5.5	−.3	3.6	3.0	4.0	2.4		
1951	6.0	7.9	5.9	9.0	7.1	11.0	4.9	7.6	5.2	5.3	5.3	4.7		
1952	.8	1.9	−.9	1.3	−1.0	1.8	−.6	.9	4.4	4.5	5.8	6.7		
1953	.7	.8	−.3	−.3	−1.1	−1.4	.3	.3	4.2	4.3	3.4	3.5		
1954	−.7	.7	−1.6	−.9	−1.8	−.4	−1.5	−1.2	2.0	3.1	2.6	3.4		
1955	.4	−.4	−.3	−.9	−.7	−1.4	0	−.6	2.0	2.0	3.2	2.6		
1956	3.0	1.5	2.6	1.0	2.9	.7	2.7	.9	3.4	2.5	3.8	3.8		
1957	2.9	3.3	2.8	3.2	2.8	3.2	2.0	2.9	4.2	4.3	4.8	4.3		
1958	1.8	2.8	1.2	2.1	2.4	4.5	.8	1.1	2.7	3.7	4.6	5.3	−0.9	0
1959	1.7	.7	.6	0	−1.0	−1.7	1.4	1.4	3.9	3.1	4.9	4.5	4.7	1.9
1960	1.4	1.7	1.2	.9	3.1	1.0	−.3	.6	2.5	3.4	3.7	4.3	1.3	2.3
1961	.7	1.0	0	.6	−.7	1.3	.8	.3	2.1	1.7	3.5	3.6	−1.3	.4
1962	1.3	1.0	.9	.9	1.3	.7	.6	.6	1.6	2.0	2.9	3.5	2.2	.4
1963	1.6	1.3	1.5	.9	2.0	1.6	1.4	.8	2.4	2.0	2.8	2.9	−.9	0
1964	1.0	1.3	.9	1.2	1.3	1.3	.3	.8	1.6	2.0	2.3	2.3	0	−.4
1965	1.9	1.6	1.4	1.1	3.5	2.2	.8	.8	2.7	2.3	3.6	3.2	1.8	1.8
1966	3.5	2.9	2.5	2.6	4.0	5.0	1.9	1.3	4.8	3.8	8.3	5.3	1.7	1.7
1967	3.0	3.1	2.5	1.9	1.2	.9	3.1	2.4	4.3	4.3	8.0	8.8	1.7	2.1
1968	4.7	4.2	4.0	3.5	4.4	3.5	3.6	3.6	5.8	5.2	7.1	7.3	1.7	1.7
1969	6.2	5.5	5.4	4.7	7.0	5.1	4.7	4.3	7.7	6.9	7.3	8.2	2.9	2.5
1970	5.6	5.7	3.9	4.5	2.3	5.7	4.7	4.1	8.1	8.0	8.1	7.0	4.8	2.8
1971	3.3	4.4	2.8	3.6	4.3	3.1	2.2	3.9	4.1	5.7	5.4	7.4	3.1	3.9
1972	3.4	3.2	3.4	3.0	4.6	4.2	2.6	2.2	3.4	3.8	3.7	3.5	2.6	2.6
1973	8.7	6.2	10.4	7.4	20.3	14.5	4.9	3.5	6.2	4.4	6.0	4.5	17.0	8.1
1974	12.3	11.0	12.8	11.9	12.0	14.3	13.2	10.7	11.4	9.2	13.2	10.4	21.6	29.6
1975	6.9	9.1	6.2	8.8	6.6	8.5	6.1	9.1	8.2	9.6	10.3	12.6	11.4	10.5
1976	4.9	5.8	3.3	4.3	.5	3.0	5.1	5.0	7.2	8.3	10.8	10.1	7.1	7.1
1977	6.7	6.5	6.1	5.8	8.1	6.3	4.8	5.5	8.0	7.7	9.0	9.9	7.2	9.5
1978	9.0	7.6	8.8	7.2	11.8	9.9	7.7	5.8	9.3	8.6	9.3	8.5	7.9	6.3
1979	13.3	11.3	13.0	11.3	10.2	11.0	14.3	11.6	13.6	11.0	10.5	9.8	37.5	25.1
1980	12.5	13.5	11.0	12.3	10.2	8.6	11.5	13.8	14.2	15.4	10.1	11.3	18.0	30.9
1981	8.9	10.3	6.0	8.4	4.3	7.8	6.7	8.6	13.0	13.1	12.6	10.7	11.9	13.6
1982	3.8	6.2	3.6	4.1	3.1	4.1	3.8	4.1	4.3	9.0	11.2	11.8	1.3	1.5
1983	3.8	3.2	2.9	2.9	2.7	2.1	3.1	3.2	4.8	3.5	6.2	8.7	−.5	.7
1984	3.9	4.3	2.7	3.4	3.8	3.8	2.1	3.1	5.4	5.2	5.8	6.0	.2	1.0
1985	3.8	3.6	2.5	2.1	2.6	2.3	2.4	2.0	5.1	5.1	6.8	6.1	1.8	.7
1986	1.1	1.9	−2.0	−.9	3.8	3.2	−5.3	−3.3	4.5	5.0	7.9	7.7	−19.7	−13.2
1987	4.4	3.6	4.6	3.2	3.5	4.1	5.1	2.6	4.3	4.2	5.6	6.6	8.2	.5

[1] Changes from December to December are based on unadjusted indexes.
[2] Household fuels—gas (piped) electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

Note.—Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers. See also Note, Table B–58.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–63.—*Producer price indexes by stage of processing, 1947–88*

[1982=100]

Year or month	Finished goods									
	Total finished goods	Consumer foods			Finished goods excluding consumer foods					Total finished consumer goods
		Total	Crude	Processed	Total	Consumer goods			Capital equipment	
						Total	Durable	Nondurable		
1947	26.4	31.9	39.3	31.1		27.4	32.9	24.2	19.8	28.6
1948	28.5	34.9	42.4	34.0		29.2	35.2	25.7	21.6	30.8
1949	27.7	32.1	40.1	31.1		28.6	36.1	24.7	22.7	29.4
1950	28.2	32.7	36.5	32.4		29.0	36.5	25.1	23.2	29.9
1951	30.8	36.7	41.9	36.2		31.1	38.9	27.0	25.5	32.7
1952	30.6	36.4	44.6	35.4		30.7	39.2	26.3	25.9	32.3
1953	30.3	34.5	41.6	33.6		31.0	39.5	26.6	26.3	31.7
1954	30.4	34.2	37.5	34.0		31.1	39.8	26.7	26.7	31.7
1955	30.5	33.4	39.1	32.7		31.3	40.2	26.8	27.4	31.5
1956	31.3	33.3	39.1	32.7		32.1	41.6	27.3	29.5	32.0
1957	32.5	34.4	38.5	34.1		32.9	42.8	27.9	31.3	32.9
1958	33.2	36.5	41.0	36.1		32.9	43.4	27.8	32.1	33.6
1959	33.1	34.8	37.3	34.7		33.3	43.9	28.2	32.7	33.3
1960	33.4	35.5	39.8	35.2		33.5	43.8	28.4	32.8	33.6
1961	33.4	35.4	38.0	35.3		33.4	43.6	28.4	32.9	33.6
1962	33.5	35.7	38.4	35.6		33.4	43.4	28.4	33.0	33.7
1963	33.4	35.3	37.8	35.2		33.4	43.1	28.5	33.1	33.5
1964	33.5	35.4	38.9	35.2		33.3	43.3	28.4	33.4	33.6
1965	34.1	36.8	39.0	36.8		33.6	43.2	28.8	33.8	34.2
1966	35.2	39.2	41.5	39.2		34.1	43.4	29.3	34.6	35.4
1967	35.6	38.5	39.6	38.8	35.0	34.7	44.1	30.0	35.8	35.6
1968	36.6	40.0	42.5	40.0	35.9	35.5	45.1	30.6	37.0	36.5
1969	38.0	42.4	45.9	42.3	36.9	36.3	45.9	31.5	38.3	37.9
1970	39.3	43.8	46.0	43.9	38.2	37.4	47.2	32.5	40.1	39.1
1971	40.5	44.5	45.8	44.7	39.6	38.7	48.9	33.5	41.7	40.2
1972	41.8	46.9	48.0	47.2	40.4	39.4	50.0	34.1	42.8	41.5
1973	45.6	56.5	63.6	55.8	42.0	41.2	50.9	36.1	44.2	46.0
1974	52.6	64.4	71.6	63.9	48.8	48.2	55.5	44.0	50.5	53.1
1975	58.2	69.8	71.7	70.3	54.7	53.2	61.0	48.9	58.2	58.2
1976	60.8	69.6	76.7	69.0	58.1	56.5	63.7	52.4	62.1	60.4
1977	64.7	73.3	79.5	72.7	62.2	60.6	67.4	56.8	66.1	64.3
1978	69.8	79.9	85.8	79.4	66.7	64.9	73.6	60.0	71.3	69.4
1979	77.6	87.3	92.3	86.8	74.6	73.5	80.8	69.3	77.5	77.5
1980	88.0	92.4	93.9	92.3	86.7	87.1	91.0	85.1	85.8	88.6
1981	96.1	97.8	104.4	97.2	95.6	96.1	96.4	95.8	94.6	96.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.0	102.4	100.9	101.8	101.2	102.8	100.5	102.8	101.3
1984	103.7	105.4	111.4	104.9	103.2	102.2	104.5	101.1	105.2	103.3
1985	104.7	104.6	102.9	104.8	104.6	103.3	106.5	101.7	107.5	103.8
1986	103.2	107.3	105.6	107.4	101.9	98.5	108.9	93.3	109.7	101.4
1987	105.4	109.5	107.1	109.6	104.0	100.7	111.5	94.9	117.7	103.6
1987: Jan	104.0	108.0	104.2	108.3	102.6	98.8	111.7	92.2	111.4	101.9
Feb	104.1	108.3	107.8	108.3	102.8	99.1	110.6	93.1	111.2	102.2
Mar	104.3	108.1	109.6	108.0	103.0	99.5	110.5	93.6	111.1	102.3
Apr	105.1	109.2	105.9	109.4	103.7	100.3	111.4	94.3	111.6	103.2
May	105.4	110.6	105.1	110.9	103.7	100.3	111.2	94.4	111.6	103.7
June	105.5	110.6	107.4	110.8	103.9	100.6	111.2	94.8	111.4	103.9
July	106.0	110.9	109.5	110.9	104.3	101.2	111.3	95.7	111.6	104.4
Aug	105.9	109.5	97.6	110.4	104.7	101.8	110.9	96.6	111.7	104.3
Sept	105.7	110.5	104.7	110.8	104.2	101.1	110.0	96.1	111.2	104.2
Oct	106.2	109.7	102.7	110.1	105.1	101.9	113.4	95.8	112.5	104.4
Nov	106.3	109.8	121.2	108.9	105.1	101.9	113.0	95.9	112.5	104.5
Dec	105.8	108.9	109.6	108.8	104.9	101.6	112.2	95.9	112.4	104.0
1988: Jan	106.3	110.5	115.3	110.1	104.9	101.5	112.6	95.5	112.9	104.5
Feb	106.1	109.4	101.0	110.0	105.0	101.5	112.9	95.5	113.2	104.1
Mar	106.3	110.1	103.4	110.5	105.1	101.5	112.6	95.6	113.2	104.4
Apr	107.0	110.3	101.4	110.9	105.9	102.6	112.8	97.0	113.6	105.1
May	107.5	111.2	100.8	112.0	106.2	103.0	113.1	97.4	113.8	105.7
June	107.7	112.3	101.4	113.0	106.1	102.8	113.2	97.1	113.9	105.9
July [1]	108.6	113.6	111.1	113.7	106.9	103.8	113.6	98.3	114.2	107.0
Aug	108.8	113.6	112.6	113.6	107.2	104.1	113.8	98.7	114.5	107.2
Sept	108.6	115.2	121.2	114.7	106.4	103.0	112.8	97.6	114.3	107.0
Oct	109.3	114.6	117.4	114.4	107.6	104.0	115.8	97.7	115.8	107.5
Nov	109.7	114.9	121.8	114.3	108.0	104.5	115.8	98.4	116.0	107.9

See next page for continuation of table.

TABLE B–63.—*Producer price indexes by stage of processing, 1947–88*—Continued

[1982=100]

Year or month	Intermediate materials, supplies, and components								Crude materials for further processing				
	Total	Foods and feeds[2]	Other	Materials and components		Processed fuels and lubricants	Containers	Supplies	Total	Foodstuffs and feedstuffs	Other		
				For manufacturing	For construction						Total	Fuel	Other
1947	23.3	.....	22.2	24.9	22.5	14.4	23.4	28.5	31.7	45.1	.....	7.5	24.0
1948	25.2	.....	24.1	26.8	24.9	16.4	24.4	29.8	34.7	48.8	.....	8.9	26.7
1949	24.2	.....	23.5	25.7	24.9	14.9	24.5	28.0	30.1	40.5	.....	8.8	24.3
1950	25.3	.....	24.6	26.9	26.2	15.2	25.2	29.0	32.7	43.4	.....	8.8	27.8
1951	28.4	.....	27.6	30.5	28.7	15.9	29.6	32.6	37.6	50.2	.....	9.0	32.0
1952	27.5	.....	26.7	29.3	28.5	15.7	28.0	32.6	34.5	47.3	.....	9.0	27.8
1953	27.7	.....	27.0	29.7	29.0	15.8	28.0	31.0	31.9	42.3	.....	9.3	26.6
1954	27.9	.....	27.2	29.8	29.1	15.8	28.5	31.7	31.6	42.3	.....	8.9	26.1
1955	28.4	.....	28.0	30.5	30.3	15.8	28.9	31.2	30.4	38.4	.....	8.9	27.5
1956	29.6	.....	29.3	32.0	31.8	16.3	31.0	32.0	30.6	37.6	.....	9.5	28.6
1957	30.3	.....	30.1	32.7	32.0	17.2	32.4	32.3	31.2	39.2	.....	10.1	28.2
1958	30.4	.....	30.1	32.8	32.0	16.2	33.2	33.1	31.9	41.6	.....	10.2	27.1
1959	30.8	.....	30.5	33.3	32.9	16.2	33.0	33.5	31.1	38.8	.....	10.4	28.1
1960	30.8	.....	30.7	33.3	32.7	16.6	33.4	33.3	30.4	38.4	.....	10.5	26.9
1961	30.6	.....	30.3	32.9	32.2	16.8	33.2	33.7	30.2	37.9	.....	10.5	27.2
1962	30.6	.....	30.2	32.7	32.1	16.7	33.6	34.5	30.5	38.6	.....	10.4	27.1
1963	30.7	.....	30.1	32.7	32.2	16.6	33.2	35.0	29.9	37.5	.....	10.5	26.7
1964	30.8	.....	30.3	33.1	32.5	16.2	32.9	34.7	29.6	36.6	.....	10.5	27.2
1965	31.2	.....	30.7	33.6	32.8	16.5	33.5	35.0	31.1	39.2	.....	10.6	27.7
1966	32.0	.....	31.3	34.3	33.6	16.8	34.5	36.5	33.1	42.7	.....	10.9	28.3
1967	32.2	41.8	31.7	34.5	34.0	16.9	35.0	36.8	31.3	40.3	21.1	11.3	26.5
1968	33.0	41.5	32.5	35.3	35.7	16.5	35.9	37.1	31.8	40.9	21.6	11.5	27.1
1969	34.1	42.9	33.6	36.5	37.7	16.6	37.2	37.8	33.9	44.1	22.5	12.0	28.4
1970	35.4	45.6	34.8	38.0	38.3	17.7	39.0	39.7	35.2	45.2	23.8	13.8	29.1
1971	36.8	46.7	36.2	38.9	40.8	19.5	40.8	40.8	36.0	46.1	24.7	15.7	29.4
1972	38.2	49.5	37.7	40.4	43.0	20.1	42.7	42.5	39.9	51.5	27.0	16.8	32.3
1973	42.4	70.3	40.6	44.1	46.5	22.2	45.2	51.7	54.5	72.6	34.3	18.6	42.9
1974	52.5	83.6	50.5	56.0	55.0	33.6	53.3	56.8	61.4	76.4	44.1	24.8	54.5
1975	58.0	81.6	56.6	61.7	60.1	39.4	60.0	61.8	61.6	77.4	43.7	30.6	50.0
1976	60.9	77.4	60.0	64.0	64.1	42.3	63.1	65.8	63.4	76.8	48.2	34.5	54.9
1977	64.9	79.6	64.1	67.4	69.3	47.7	65.9	69.3	65.5	77.5	51.7	42.0	56.3
1978	69.5	84.8	68.6	72.0	76.5	49.9	71.0	72.9	73.4	87.3	57.5	48.2	61.9
1979	78.4	94.5	77.4	80.9	84.2	61.6	79.4	80.2	85.9	100.0	69.6	57.3	75.5
1980	90.3	105.5	89.4	91.7	91.3	85.0	89.1	89.9	95.3	104.6	84.6	69.4	91.8
1981	98.6	104.6	98.2	98.7	97.9	100.6	96.7	96.9	103.0	103.9	101.8	84.8	109.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.6	103.6	100.5	101.2	102.8	95.4	100.4	101.8	101.3	101.8	100.7	105.1	98.8
1984	103.1	105.7	103.0	104.1	105.6	95.7	105.9	104.1	103.5	104.7	102.2	105.1	101.0
1985	102.7	97.3	103.0	103.3	107.3	92.8	109.0	104.4	95.8	94.8	96.9	102.7	94.3
1986	99.1	96.2	99.3	102.2	108.1	72.7	110.3	105.6	87.7	93.2	81.6	92.2	76.0
1987	101.5	99.2	101.7	105.3	109.8	73.3	114.5	107.7	93.7	96.2	87.9	84.1	88.5
1987: Jan	98.9	95.9	99.1	102.8	108.0	68.7	112.3	106.2	89.0	91.8	83.2	85.2	81.3
Feb	99.5	96.1	99.7	103.1	108.2	70.7	113.3	106.4	89.9	92.8	84.1	83.9	83.1
Mar	99.6	95.1	99.9	103.4	108.5	70.3	113.8	106.4	90.3	92.7	84.8	86.2	83.2
Apr	100.2	96.9	100.4	104.0	108.7	71.2	114.0	106.7	92.4	96.9	85.5	85.7	84.4
May	100.9	100.4	100.9	104.6	108.9	72.5	114.0	107.3	94.8	101.6	86.4	84.1	86.3
June	101.5	100.7	101.6	105.1	109.3	74.5	114.2	107.6	95.1	99.7	88.0	84.0	88.6
July	102.1	100.7	102.2	105.5	109.8	76.0	114.2	107.8	96.0	98.4	90.3	83.9	91.9
Aug	102.5	99.6	102.7	105.8	110.2	77.3	114.4	107.8	96.5	97.1	91.8	84.1	94.0
Sept	102.7	101.0	102.8	106.3	110.7	75.9	115.4	108.2	95.7	96.6	90.8	84.4	92.5
Oct	103.1	100.6	103.2	107.2	111.2	74.6	116.1	108.8	95.3	96.1	90.5	82.6	92.8
Nov	103.4	101.4	103.6	107.5	111.9	74.4	116.5	109.5	94.7	95.3	90.1	81.3	92.7
Dec	103.6	102.0	103.7	108.1	112.4	72.9	116.1	109.9	94.4	95.9	89.2	83.2	90.7
1988: Jan	104.2	102.9	104.2	109.5	113.6	70.7	116.6	110.5	93.7	97.2	87.3	83.5	87.9
Feb	104.3	101.9	104.4	109.9	113.8	70.2	116.9	110.6	94.7	99.7	87.4	82.6	88.5
Mar	104.7	102.0	104.8	110.5	114.4	69.6	117.4	111.1	94.1	99.8	86.4	82.8	86.9
Apr	105.6	103.4	105.7	111.6	115.0	70.5	118.4	111.7	95.6	101.1	88.0	84.5	88.4
May	106.3	104.8	106.4	112.3	115.4	71.5	119.5	112.3	97.2	104.7	88.2	82.2	89.8
June	107.4	111.8	107.2	112.9	115.8	73.9	120.0	113.8	97.9	108.6	87.0	80.1	88.9
July [1]	108.2	116.6	107.8	114.0	116.5	73.6	120.5	115.2	97.3	110.1	85.1	81.7	85.5
Aug	108.4	114.5	108.1	114.3	116.9	73.3	121.0	115.1	97.3	110.1	85.1	82.0	85.4
Sept	108.7	115.7	108.4	114.9	117.2	72.5	122.4	115.7	96.6	111.5	83.2	80.6	83.3
Oct	108.6	114.7	108.3	115.5	117.7	69.7	122.5	116.1	95.8	111.4	82.0	83.0	80.6
Nov	109.0	113.3	108.8	116.2	118.2	69.5	122.7	116.2	94.0	107.7	81.4	81.4	80.5

[1] Data have been revised through July 1988 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Intermediate materials for food manufacturing and feeds.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–64.—*Producer price indexes by stage of processing, special groups, 1974–88*

[1982=100]

Year or month	Finished goods						Intermediate materials, supplies, and components				Crude materials for further processing			
				Excluding foods and energy										
	Total	Foods	Energy	Total	Capital equipment	Consumer goods excluding foods and energy	Total	Foods and feeds[1]	Energy	Other	Total	Foodstuffs and feedstuffs	Energy	Other
1974	52.6	64.4	26.2	53.6	50.5	55.5	52.5	83.6	33.1	54.0	61.4	76.4	27.8	83.3
1975	58.2	69.8	30.7	59.7	58.2	60.6	58.0	81.6	38.7	60.2	61.6	77.4	33.3	69.3
1976	60.8	69.6	34.3	63.1	62.1	63.7	60.9	77.4	41.5	63.8	63.4	75.8	35.3	80.2
1977	64.7	73.3	39.7	66.9	66.1	67.3	64.9	79.6	46.8	67.6	65.5	77.5	40.4	79.8
1978	69.8	79.9	42.3	71.9	71.3	72.2	69.5	84.8	49.1	72.5	73.4	87.3	45.2	87.8
1979	77.6	87.3	57.1	78.3	77.5	78.8	78.4	94.5	61.1	80.7	85.9	100.0	54.9	106.2
1980	88.0	92.4	85.2	87.1	85.8	87.8	90.3	105.5	84.9	90.3	95.3	104.6	73.1	113.1
1981	96.1	97.8	101.5	94.6	94.6	94.6	98.6	104.6	100.5	97.7	103.0	103.9	97.7	111.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.0	95.2	103.0	102.8	103.1	100.6	103.6	95.3	101.6	101.3	101.8	98.7	105.3
1984	103.7	105.4	91.2	105.5	105.2	105.7	103.1	105.7	95.5	104.7	103.5	104.7	98.0	111.7
1985	104.7	104.6	87.6	108.1	107.5	108.4	102.7	97.3	92.6	105.2	95.8	94.8	93.3	104.9
1986	103.2	107.3	63.0	110.6	109.7	111.1	99.1	96.2	72.6	104.9	87.7	93.2	71.8	103.1
1987	105.4	109.5	61.8	113.3	111.7	114.2	101.5	99.2	73.0	107.8	93.7	96.2	75.0	115.7
1987: Jan	104.0	108.0	58.0	112.6	111.4	113.2	98.9	95.9	68.6	105.6	89.0	91.8	72.1	105.1
Feb	104.1	108.3	59.5	112.4	111.2	113.0	99.5	96.1	70.5	105.9	89.9	92.8	72.9	106.2
Mar	104.3	108.1	60.2	112.5	111.1	113.2	99.6	95.1	70.1	106.2	90.3	92.7	73.6	106.8
Apr	105.1	109.2	61.7	112.9	111.6	113.7	100.2	96.9	71.0	106.6	92.4	95.9	74.1	108.1
May	105.4	110.6	61.6	113.0	111.6	113.7	100.9	100.4	72.2	107.0	94.8	101.6	74.5	110.5
June	105.5	110.6	62.5	112.9	111.4	113.7	101.5	100.7	74.1	107.5	95.1	99.7	75.6	113.5
July	106.0	110.9	63.4	113.3	111.6	114.2	102.1	100.7	75.7	107.9	96.0	98.4	77.8	115.7
Aug	105.9	109.5	64.9	113.4	111.7	114.3	102.5	99.6	77.0	108.2	96.5	97.1	78.9	118.7
Sept	105.7	110.5	63.4	113.1	111.2	114.1	102.7	101.0	75.6	108.7	95.7	96.6	76.7	122.9
Oct	106.2	109.7	62.4	114.5	112.5	115.6	103.1	100.6	74.4	109.6	95.3	96.1	75.4	126.4
Nov	106.3	109.8	62.5	114.5	112.5	115.6	103.4	101.4	74.1	110.1	94.7	95.3	74.7	127.1
Dec	105.8	108.9	61.4	114.5	112.4	115.7	103.6	102.0	72.7	110.6	94.4	95.9	73.6	127.3
1988: Jan	106.3	110.5	59.2	115.2	112.9	116.5	104.2	102.9	70.5	111.8	93.7	97.2	70.8	129.2
Feb	106.1	109.4	58.5	115.5	113.2	116.8	104.3	101.9	70.0	112.2	94.7	99.7	70.4	131.6
Mar	106.3	110.1	58.2	115.7	113.2	117.1	104.7	102.0	69.3	112.9	94.1	99.8	68.7	133.4
Apr	107.0	110.3	60.9	115.9	113.6	117.3	105.6	103.4	70.2	113.8	95.6	101.1	70.6	133.1
May	107.5	111.2	61.6	116.2	113.8	117.6	106.3	104.8	71.2	114.4	97.2	104.7	71.4	131.3
June	107.7	112.3	60.3	116.4	113.9	117.9	107.4	111.8	73.5	114.9	97.9	108.6	70.0	131.2
July[2]	108.6	113.6	61.3	117.1	114.2	118.8	108.2	116.6	73.3	115.7	97.3	110.1	67.3	132.9
Aug	108.8	113.6	61.8	117.4	114.5	119.1	108.4	114.5	73.0	116.1	97.3	110.1	67.0	133.8
Sept	108.6	115.2	58.8	117.2	114.3	118.9	108.7	115.7	72.2	116.7	96.6	111.5	64.9	133.4
Oct	109.3	114.6	58.7	118.7	115.8	120.3	108.6	114.7	69.4	117.4	95.8	111.4	63.5	133.3
Nov	109.7	114.9	59.8	118.9	116.0	120.5	109.0	113.3	69.2	118.0	94.0	107.7	62.6	134.0

[1] Intermediate materials for food manufacturing and feeds.

[2] Data have been revised through July 1988 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

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TABLE B–65.—*Producer price indexes for major commodity groups, 1947–88*

[1982=100]

Year or month	Farm products and processed foods and feeds			Industrial commodities				
	Total	Farm products	Processed foods and feeds	Total	Textile products and apparel	Hides, skins, leather, and related products	Fuels and related products, and power [1]	Chemicals and allied products [1]
1947	37.9	45.1	33.0	22.7	50.6	31.7	11.1	32.1
1948	40.8	48.5	35.3	24.6	52.8	32.1	13.1	32.8
1949	36.0	41.9	32.1	24.1	48.3	30.4	12.4	30.0
1950	37.7	44.0	33.2	25.0	50.2	32.9	12.6	30.4
1951	43.0	51.2	36.9	27.6	56.0	37.7	13.0	34.8
1952	41.3	48.4	36.4	26.9	50.5	30.5	13.0	33.0
1953	38.6	43.8	34.8	27.2	49.3	31.0	13.4	33.4
1954	38.5	43.2	35.4	27.2	48.2	29.5	13.2	33.8
1955	38.6	40.5	33.8	27.8	48.2	29.4	13.2	33.7
1956	36.4	40.0	33.8	29.1	48.2	31.2	13.6	33.9
1957	37.7	41.1	34.8	29.9	48.3	31.2	14.3	34.6
1958	39.4	42.9	36.5	30.0	47.4	31.6	13.7	34.9
1959	37.6	40.2	35.6	30.5	48.1	35.9	13.7	34.8
1960	37.7	40.1	35.6	30.5	48.6	34.6	13.9	34.8
1961	37.7	39.7	36.2	30.4	47.8	34.9	14.0	34.5
1962	38.1	40.4	36.5	30.4	48.2	35.3	14.0	33.9
1963	37.7	39.6	36.8	30.3	48.2	34.3	13.9	33.5
1964	37.5	39.0	36.7	30.5	48.5	34.4	13.5	33.6
1965	39.0	40.7	38.0	30.9	48.8	35.9	13.8	33.9
1966	41.6	43.7	40.2	31.5	48.9	39.4	14.1	34.0
1967	40.2	41.3	39.8	32.0	48.9	38.1	14.4	34.2
1968	41.1	42.3	40.6	32.8	50.7	39.3	14.3	34.1
1969	43.4	45.0	42.7	33.9	51.8	41.5	14.6	34.2
1970	44.9	45.8	44.6	35.2	52.4	42.0	15.3	35.0
1971	45.8	46.6	45.5	36.5	53.3	43.4	16.6	35.6
1972	49.2	51.6	48.0	37.8	55.5	50.0	17.1	35.6
1973	63.9	72.7	58.9	40.3	60.5	54.5	19.4	37.6
1974	71.3	77.4	68.0	49.2	68.0	55.2	30.1	50.2
1975	74.0	77.0	72.6	54.9	67.4	56.5	35.4	62.0
1976	73.6	78.8	70.8	58.4	72.4	63.9	38.3	64.0
1977	75.9	79.4	74.0	62.5	75.3	68.3	43.6	65.9
1978	83.0	87.7	80.6	67.0	78.1	76.1	46.5	68.0
1979	92.3	99.6	88.5	75.7	82.5	96.1	58.9	76.0
1980	98.3	102.9	95.9	88.0	89.7	94.7	82.8	89.0
1981	101.1	105.2	98.9	97.4	97.6	99.3	100.2	98.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.0	102.4	101.8	101.1	100.3	103.2	95.9	100.3
1984	105.5	105.5	105.4	103.3	102.7	109.0	94.8	102.9
1985	100.7	95.1	103.5	103.7	102.9	108.9	91.4	103.7
1986	101.2	92.9	105.4	100.0	103.2	113.0	69.8	102.6
1987	103.7	95.5	107.9	102.6	105.1	120.4	70.2	106.4
1987: Jan	101.1	91.1	106.1	100.4	103.6	114.9	66.6	103.0
Feb	101.6	92.0	106.4	100.8	103.7	115.0	68.0	103.6
Mar	101.3	92.2	105.9	101.1	103.9	116.5	68.3	104.3
Apr	103.3	95.7	107.2	101.6	104.2	118.3	69.1	105.2
May	105.9	99.9	109.1	101.9	104.4	120.7	69.7	105.9
June	105.5	98.8	109.0	102.4	104.8	120.2	71.1	107.1
July	105.2	97.9	109.0	103.1	105.3	121.0	72.6	107.0
Aug	104.0	95.7	108.2	103.7	105.6	121.3	73.8	107.1
Sept	104.6	96.1	108.9	103.5	106.0	123.0	72.2	107.5
Oct	104.1	94.9	108.7	104.0	106.4	124.1	71.1	108.2
Nov	104.1	96.3	108.1	104.2	106.6	124.3	70.8	108.8
Dec	104.0	95.7	108.2	104.2	107.0	125.7	69.5	109.1
1988: Jan	105.3	97.3	109.3	104.4	107.6	128.4	67.2	110.6
Feb	105.3	97.9	109.1	104.6	108.1	129.1	66.7	111.6
Mar	105.8	98.2	109.6	104.7	108.4	132.6	65.9	112.7
Apr	106.4	99.2	110.1	105.6	108.7	134.2	67.6	113.8
May	108.1	102.2	111.2	106.1	108.9	134.6	68.4	114.6
June	111.2	106.8	113.5	106.4	109.3	131.2	68.6	115.3
July [2]	112.9	109.1	115.0	106.8	109.5	130.1	68.0	117.4
Aug	112.6	108.9	114.6	107.1	109.6	131.3	67.9	118.4
Sept	114.0	111.1	115.6	106.9	110.0	132.7	66.1	119.1
Oct	113.5	110.3	115.2	107.1	109.9	132.0	64.5	120.1
Nov	112.3	107.4	114.9	107.4	110.2	130.7	64.5	121.1

[1] Prices for some items in this grouping are lagged and refer to 1 month earlier than the index month; the lag for refined petroleum items was eliminated beginning with the June 1985 data.

See next page for continuation of table.

TABLE B–65.—*Producer price indexes for major commodity groups, 1947–88*—Continued

[1982=100]

Year or month	Industrial commodities—Continued									
	Rubber and plastic products	Lumber and wood products	Pulp, paper, and allied products	Metals and metal products	Machinery and equipment	Furniture and household durables	Non-metallic mineral products	Transportation equipment		Miscellaneous products
								Total	Motor vehicles and equipment	
1947	29.2	25.8	25.1	18.2	19.3	37.2	20.7	.....	25.5	26.6
1948	30.2	29.5	26.2	20.7	20.9	39.4	22.4	.....	28.2	27.7
1949	29.2	27.3	25.1	20.9	21.9	40.1	23.0	.....	30.1	28.2
1950	35.6	31.4	25.7	22.0	22.6	40.9	23.5	.....	30.0	28.6
1951	34.7	34.1	30.5	24.5	25.3	44.4	25.0	.....	31.6	30.3
1952	39.6	33.2	29.7	24.5	25.3	43.5	25.0	.....	33.4	30.2
1953	36.9	33.1	29.6	25.3	25.9	44.4	26.0	.....	33.3	31.0
1954	37.5	32.5	29.6	25.5	26.3	44.9	26.6	.....	33.4	31.3
1955	42.4	34.1	30.4	27.2	27.2	45.1	27.3	.....	34.3	31.3
1956	43.0	34.6	32.4	29.6	29.3	46.3	28.5	.....	36.3	31.7
1957	42.8	32.8	33.0	30.2	31.4	47.5	29.6	.....	37.9	32.6
1958	42.8	32.5	33.4	30.0	32.1	47.9	29.9	.....	39.0	33.3
1959	42.6	34.7	33.7	30.6	32.8	48.0	30.3	.....	39.9	33.4
1960	42.7	33.5	34.0	30.6	33.0	47.8	30.4	.....	39.3	33.6
1961	41.1	32.0	33.0	30.5	33.0	47.5	30.5	.....	39.2	33.7
1962	39.9	32.2	33.4	30.2	33.0	47.2	30.5	.....	39.2	33.9
1963	40.1	32.8	33.1	30.3	33.1	46.9	30.3	.....	38.9	34.2
1964	39.6	33.5	33.0	31.1	33.3	47.1	30.4	.....	39.1	34.4
1965	39.7	33.7	33.3	32.0	33.7	46.8	30.4	.....	39.2	34.7
1966	40.5	35.2	34.2	32.8	34.7	47.4	30.7	.....	39.2	35.3
1967	41.4	35.1	34.6	33.2	35.9	48.3	31.2	.....	39.8	36.2
1968	42.8	39.8	35.0	34.0	37.0	49.7	32.4	.....	40.9	37.0
1969	43.6	44.0	36.0	36.0	38.2	50.7	33.6	40.4	41.7	38.1
1970	44.9	39.9	37.5	38.7	40.0	51.9	35.3	41.9	43.3	39.8
1971	45.2	44.7	38.1	39.4	41.4	53.1	38.2	44.2	45.7	40.8
1972	45.3	50.7	39.3	40.9	42.3	53.8	39.4	45.5	47.0	41.5
1973	46.6	62.2	42.3	44.0	43.7	55.7	40.7	46.1	47.4	43.3
1974	56.4	64.5	52.5	57.0	50.0	61.8	47.8	50.3	51.4	48.1
1975	62.2	62.1	59.0	61.5	57.9	67.5	54.4	56.7	57.6	53.4
1976	66.0	72.2	62.1	65.0	61.3	70.3	58.2	60.5	61.2	55.6
1977	69.4	83.0	64.6	69.3	65.2	73.2	62.6	64.6	65.2	59.4
1978	72.4	96.9	67.7	75.3	70.3	77.5	69.6	69.5	70.0	66.7
1979	80.5	105.5	75.9	86.0	76.7	82.8	77.6	75.3	75.8	75.5
1980	90.1	101.5	86.3	95.0	86.0	90.7	88.4	82.9	83.1	93.6
1981	96.4	102.8	94.8	99.6	94.4	95.9	96.7	94.3	94.6	96.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.8	107.9	103.3	101.8	102.7	103.4	101.6	102.8	102.2	104.8
1984	102.3	108.0	110.3	104.8	105.1	105.7	105.4	105.2	104.1	107.0
1985	101.9	106.6	113.3	104.4	107.2	107.1	108.6	107.9	106.4	109.4
1986	101.9	107.2	116.1	103.2	108.8	108.2	110.0	110.5	109.1	111.6
1987	103.0	112.8	121.8	107.1	110.4	109.9	110.0	112.5	111.7	114.9
1987: Jan	101.5	108.1	119.5	103.7	109.8	109.0	109.3	113.1	112.6	113.1
Feb	101.6	109.4	120.3	103.8	109.9	109.1	109.6	112.1	110.9	113.1
Mar	101.4	110.6	120.6	104.0	110.0	109.2	109.7	112.4	111.1	113.3
Apr	101.8	110.7	120.9	104.4	110.0	109.6	109.9	113.0	112.3	113.9
May	102.0	110.7	121.0	105.2	110.2	109.8	109.9	112.4	111.8	114.0
June	102.3	111.4	121.2	1.5.8	110.1	109.9	110.1	112.3	111.5	114.0
July	102.9	112.4	121.6	106.7	110.4	110.0	110.1	112.2	111.4	115.1
Aug	103.2	113.7	122.2	107.7	110.6	110.3	109.9	111.9	110.8	115.5
Sept	103.7	116.2	122.9	108.8	110.6	110.3	110.0	110.9	108.9	115.8
Oct	104.4	116.1	123.8	110.8	110.9	110.5	110.4	113.8	114.2	116.2
Nov	105.1	116.9	123.9	111.7	111.0	110.7	110.5	113.5	113.3	116.7
Dec	105.5	117.1	124.2	112.9	111.3	110.9	110.4	112.5	111.8	117.7
1988: Jan	106.2	117.8	126.6	114.4	111.9	111.6	110.8	113.2	112.0	118.7
Feb	106.9	118.4	127.3	114.7	112.2	111.9	110.9	113.2	111.9	119.2
Mar	107.7	118.9	128.0	115.4	112.3	112.3	110.9	113.1	111.8	119.1
Apr	108.2	119.2	128.9	116.9	112.5	111.0	113.5	112.0	119.4	
May	108.8	119.1	129.6	117.4	112.9	112.8	111.2	113.7	112.3	119.4
June	109.1	119.3	130.0	118.0	112.9	112.7	111.3	114.0	112.4	119.4
July [p]	109.8	120.0	131.0	119.2	113.2	113.1	111.1	113.9	112.6	120.9
Aug	110.9	118.9	131.3	119.7	113.6	113.4	111.2	113.9	112.8	120.8
Sept	111.2	119.0	132.1	120.3	113.8	113.7	111.3	113.2	111.0	120.9
Oct	111.4	118.8	132.9	121.3	114.1	114.0	111.5	116.1	116.1	121.1
Nov	111.4	118.8	133.1	122.7	114.5	114.2	111.6	116.0	115.7	121.2

[p] Data have been revised through July 1988 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–66.—*Changes in producer price indexes for finished goods, 1955–88*

[Percent change]

Year or month	Total finished goods		Finished consumer foods		Finished goods excluding consumer foods						Finished energy goods		Finished goods excluding foods and energy	
					Total		Consumer goods		Capital equipment					
	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year	Dec. to Dec.[1]	Year to year
1955	1.0	0.3	−3.0	−2.3			1.6	0.6	5.6	2.6				
1956	4.2	2.6	3.7	−.3			2.5	2.6	8.1	7.7				
1957	3.4	3.8	5.1	3.3			1.5	2.5	4.6	6.1				
1958	.3	2.2	.6	6.1			.3	0	1.2	2.6				
1959	−.3	−.3	−3.7	−4.7			.9	1.2	.9	1.9				
1960	1.8	.9	5.3	2.0			.3	.6	.3	.3				
1961	−.6	0	−1.9	−.3			−.3	−.3	0	.3				
1962	.3	.3	.6	.8			0	0	.3	.3				
1963	−.3	−.3	−1.4	−1.1			0	0	.6	.3				
1964	.6	.3	.6	.3			.3	−.3	.9	.9				
1965	3.3	1.8	9.1	4.0			.9	.9	1.5	1.2				
1966	2.0	3.2	1.3	6.5			1.8	1.5	3.8	2.4				
1967	1.7	1.1	−.3	−1.8			2.0	1.8	3.1	3.5				
1968	3.1	2.8	4.6	3.9	2.5	2.6	2.0	2.3	3.0	3.4				
1969	4.9	3.8	8.1	6.0	3.3	2.8	2.8	2.3	4.8	3.5				
1970	2.1	3.4	−2.3	3.3	4.3	3.5	3.8	3.0	4.8	4.7				
1971	3.3	3.1	5.8	1.6	2.0	3.7	2.1	3.5	2.4	4.0				
1972	3.9	3.2	7.9	5.4	2.3	2.0	2.1	1.8	2.1	2.6				
1973	11.7	9.1	22.7	20.5	6.6	4.0	7.5	4.6	5.1	3.3				
1974	18.3	15.4	12.8	14.0	21.1	16.2	20.3	17.0	22.7	14.3			17.7	11.4
1975	6.6	10.6	5.6	8.4	7.2	12.1	6.8	10.4	8.1	15.2	16.3	17.2	6.0	11.4
1976	3.8	4.5	−2.5	−.3	6.2	6.2	6.0	6.2	6.5	6.7	11.6	11.7	5.7	5.7
1977	6.7	6.4	6.9	5.3	6.8	7.1	6.7	7.3	7.2	6.4	12.0	15.7	6.2	6.0
1978	9.3	7.9	11.7	9.0	8.3	7.2	8.5	7.1	8.0	7.9	8.5	6.5	8.4	7.5
1979	12.8	11.2	7.4	9.3	14.8	11.8	17.6	13.3	8.8	8.7	58.1	35.0	9.4	8.9
1980	11.8	13.4	7.5	5.8	13.4	16.2	14.1	18.5	11.4	10.7	27.9	49.2	10.8	11.2
1981	7.1	9.2	1.5	5.8	8.7	10.3	8.6	10.3	9.2	10.3	14.1	19.1	7.7	8.6
1982	3.6	4.1	2.0	2.2	4.2	4.6	4.2	4.1	3.9	5.7	−.1	−1.5	4.9	5.7
1983	.6	1.6	2.3	1.0	0	1.8	−.9	1.2	2.0	2.8	−9.2	−4.8	1.9	3.0
1984	1.7	2.1	3.5	4.4	1.1	1.4	.8	1.0	1.8	2.3	−4.2	−4.2	2.0	2.4
1985	1.8	1.0	.6	−.8	2.2	1.4	2.1	1.1	2.7	2.2	−.2	−3.9	2.7	2.5
1986	−2.3	−1.4	2.8	2.6	−4.0	−2.6	−6.6	−4.6	2.1	2.0	−38.1	−28.1	2.7	2.3
1987	2.2	2.1	−.2	2.1	3.2	2.1	4.1	2.2	1.3	1.8	11.2	−1.9	2.1	2.4

	Percent change from preceding month													
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1987: Jan	0.5	0.5	−1.0	−0.8	1.0	0.9	1.2	1.1	0.4	0.4	5.1	3.2	0.4	0.5
Feb	.1	.2	.3	.2	.2	.2	.3	.3	−.2	−.2	2.6	2.6	−.2	−.2
Mar	.2	.4	−.2	0	.2	.6	.4	.8	−.1	.1	1.2	2.9	.1	.2
Apr	.8	.6	1.0	1.3	.7	.3	.8	.3	.5	.3	2.5	.5	.4	.3
May	.3	.2	1.3	1.1	0	−.1	0	−.1	0	.1	−.2	−.8	.1	.1
June	.1	.1	0	−.1	.2	.1	.3	.2	−.2	−.1	1.5	.8	−.1	0
July	.5	.3	.3	−.4	.4	.6	.6	.7	.2	.2	1.4	1.6	.4	.4
Aug	−.1	.3	−1.3	−.7	.4	.6	.6	.7	.1	.3	2.4	2.7	.1	.2
Sept	−.2	.4	.9	.6	−.5	.4	−.7	.3	−.4	.5	−2.3	−.5	−.3	.5
Oct	.5	−.3	−.7	−.3	.9	−.3	.8	−.2	1.2	−.4	−1.6	−.9	1.2	−.2
Nov	.1	.1	.1	.1	0	0	0	−.1	0	.1	.2	−.8	0	.1
Dec	−.5	−.3	−.8	−1.3	−.2	0	−.3	.1	−.1	.2	−1.8	−.8	0	.3
1988: Jan	.5	.3	1.5	1.7	0	−.1	−.1	−.4	.4	.4	−3.6	−5.1	.6	.6
Feb	−.2	−.2	−1.0	−1.1	.1	.1	0	0	.3	.2	−1.2	−1.0	.3	.3
Mar	.2	.6	.6	.8	.1	.4	0	.5	0	.2	−.5	1.2	.2	.3
Apr	.7	.4	.2	.4	.8	.5	1.1	.6	.4	.2	4.6	2.7	.2	.1
May	.5	.4	.8	.7	.3	.3	.4	.3	.2	.3	1.1	.3	.3	.3
June	.2	.2	1.0	.9	−.1	−.2	−.2	−.3	.1	.2	−2.1	−2.8	.2	.3
July[2]	.8	.7	1.2	.6	.8	.8	1.0	1.1	.3	.4	1.7	2.0	.6	.7
Aug	.2	.5	0	.5	.3	.5	.3	.5	.3	.4	.8	1.2	.3	.3
Sept	−.2	.4	1.4	1.2	−.7	.1	−1.1	−.3	−.2	.8	−4.9	−3.3	−.2	.6
Oct	.6	0	−.5	−.1	1.1	0	1.0	.1	1.3	−.3	−.2	.3	1.3	−.1
Nov	.4	.3	.3	0	.4	.3	.5	.4	.2	.3	1.9	1.2	.2	.3

[1] Changes from December to December are based on unadjusted indexes.
[2] Data have been revised through July 1988 to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–67.—*Money stock, liquid assets, and debt measures, 1959–88*

[Averages of daily figures; billions of dollars, seasonally adjusted]

Year and month	M1	M2	M3	L	Debt[1]	Percent change from year or 6 months earlier[2]			
	Sum of currency, demand deposits, travelers checks, and other checkable deposits (OCDs)	M1 plus overnight RPs and Eurodollars, MMMF balances (general purpose and broker/dealer), MMDAs, and savings and small time deposits	M2 plus large time deposits, term RPs, term Eurodollars, and institution-only MMMF balances	M3 plus other liquid assets	Debt of domestic nonfinancial sectors (monthly average)	M1	M2	M3	Debt
December:									
1959	140.0	297.8	299.8	388.7	661.9				8.1
1960	140.7	312.4	315.3	403.7	696.8	0.5	4.9	5.2	5.3
1961	145.2	335.5	341.1	430.8	738.7	3.2	7.4	8.2	6.0
1962	147.9	362.7	371.5	466.1	790.7	1.9	8.1	8.9	7.0
1963	153.4	393.3	406.1	503.8	846.1	3.7	8.4	9.3	7.0
1964	160.4	424.8	442.5	540.4	909.1	4.6	8.0	9.0	7.4
1965	167.9	459.4	482.3	584.5	977.5	4.7	8.1	9.0	7.5
1966	172.1	480.0	505.1	614.8	1,044.5	2.5	4.5	4.7	6.9
1967	183.3	524.4	557.1	666.6	1,120.5	6.5	9.2	10.3	7.3
1968	197.5	566.4	606.3	729.0	1,215.0	7.7	8.0	8.8	8.4
1969	204.0	589.6	615.1	763.6	1,303.9	3.3	4.1	1.5	7.3
1970	214.5	628.1	677.4	816.2	1,393.1	5.1	6.5	10.1	6.8
1971	228.4	712.7	776.2	903.1	1,525.7	6.5	13.5	14.6	9.5
1972	249.4	805.3	886.1	1,023.1	1,681.2	9.2	13.0	14.2	10.2
1973	263.0	861.0	985.1	1,142.6	1,868.4	5.5	6.9	11.2	11.1
1974	274.4	908.5	1,070.4	1,250.3	2,040.9	4.3	5.5	8.7	9.2
1975	287.6	1,023.2	1,172.2	1,367.0	2,222.9	4.8	12.6	9.5	8.9
1976	306.5	1,163.7	1,311.9	1,516.7	2,462.2	6.6	13.7	11.9	10.8
1977	331.4	1,286.7	1,472.8	1,705.4	2,775.3	8.1	10.6	12.3	12.7
1978	358.7	1,389.0	1,646.9	1,911.0	3,146.9	8.2	8.0	11.8	13.4
1979	386.1	1,500.2	1,806.6	2,119.5	3,527.6	7.6	8.0	9.7	12.1
1980	412.2	1,633.1	1,990.8	2,327.6	3,868.2	6.8	8.9	10.2	9.7
1981	439.1	1,795.5	2,236.5	2,598.0	4,244.3	6.5	9.9	12.3	9.7
1982	476.4	1,954.0	2,443.2	2,852.9	4,627.9	8.5	8.8	9.2	9.0
1983	522.1	2,185.2	2,693.2	3,154.4	5,161.1	9.6	11.8	10.2	11.5
1984	551.9	2,363.6	2,978.3	3,519.4	5,910.1	5.7	8.2	10.6	14.5
1985	620.1	2,562.6	3,196.4	3,825.9	6,719.9	12.4	8.4	7.3	13.7
1986	725.4	2,807.7	3,490.8	4,134.3	7,576.8	17.0	9.6	9.2	12.8
1987	750.8	2,901.0	3,664.1	4,328.9	8,282.2	3.5	3.3	5.0	9.3
1988: Jan	758.8	2,925.1	3,690.5	4,367.0	8,327.5	4.1	4.8	5.7	9.4
Feb	759.5	2,946.2	3,722.9	4,398.7	8,386.9	3.5	5.4	6.5	9.4
Mar	762.9	2,967.5	3,748.3	4,425.5	8,452.1	4.2	6.1	7.1	9.3
Apr	770.1	2,990.9	3,772.0	4,469.5	8,513.2	3.7	6.8	7.1	9.0
May	770.2	3,002.2	3,789.4	4,501.9	8,572.0	4.7	7.4	7.2	8.5
June	776.5	3,016.5	3,814.0	4,518.5	8,631.1	7.0	8.1	8.3	8.6
July	782.3	3,025.8	3,836.1	4,561.6	8,691.0	6.3	7.0	8.0	8.9
Aug	782.5	3,031.6	3,848.3	4,582.3	8,758.3	6.1	5.9	6.9	9.1
Sept	782.3	3,034.1	3,853.6	4,589.0	8,822.6	5.2	4.5	5.7	9.0
Oct	783.5	3,037.5	3,868.6	4,608.6	8,880.2	3.5	3.1	5.2	8.8
Nov P	783.6	3,053.9	3,888.8			3.5	3.5	5.3	

[1] Consists of outstanding credit market debt of the U.S. Government, State and local governments, and private nonfinancial sectors; data from flow of funds accounts.

[2] Annual changes are from December to December; monthly changes are from 6 months earlier at an annual rate.

Note.—The nontransactions portion of M2 is seasonally adjusted as a whole to reduce distortions caused by substantial portfolio shifts arising from regulatory and financial changes in recent years, especially shifts to MMDAs in 1983. A similar procedure is used to seasonally adjust the remaining nontransactions balances in M3. See Table B–68 for components.

Source: Board of Governors of the Federal Reserve System.

TABLE B–68.—*Components of money stock measures and liquid assets, 1959–88*

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Currency	Travelers checks	Demand deposits	Other checkable deposits (OCDs)	Overnight repurchase agreements (RPs) net, plus overnight Eurodollars NSA	Money market mutual fund (MMMF) balances		Money market deposit accounts (MMDAs) NSA	Savings deposits
						General purpose and broker/dealer NSA	Institution only NSA		
December:									
1959	28.8	0.4	110.8	0.0	0.0	0.0	0.0	0.0	146.4
1960	28.7	.4	111.6	.0	.0	.0	.0	.0	159.1
1961	29.3	.4	115.5	.0	.0	.0	.0	.0	175.5
1962	30.3	.4	117.1	.0	.0	.0	.0	.0	194.8
1963	32.2	.5	120.6	.1	.0	.0	.0	.0	214.4
1964	33.9	.5	125.8	.1	.0	.0	.0	.0	235.2
1965	36.0	.6	131.3	.1	.0	.0	.0	.0	256.9
1966	38.0	.6	133.4	.1	.0	.0	.0	.0	253.1
1967	40.0	.7	142.5	.1	.0	.0	.0	.0	263.7
1968	43.0	.8	153.6	.1	.0	.0	.0	.0	268.9
1969	45.7	.8	157.3	.2	2.2	.0	.0	.0	263.7
1970	48.6	1.0	164.7	.1	1.3	.0	.0	.0	261.0
1971	52.0	1.1	175.1	.2	2.3	.0	.0	.0	292.2
1972	56.3	1.3	191.6	.2	2.8	.0	.0	.0	321.4
1973	60.8	1.5	200.3	.3	5.3	.1	.0	.0	326.7
1974	67.0	1.8	205.1	.4	5.6	1.7	.2	.0	338.5
1975	72.8	2.3	211.6	.9	5.8	2.7	.4	.0	388.8
1976	79.5	2.8	221.6	2.7	10.6	2.4	.6	.0	453.1
1977	87.4	3.1	236.7	4.2	14.7	2.4	.9	.0	492.2
1978	96.2	3.5	250.5	8.5	20.3	6.4	3.1	.0	481.9
1979	104.9	3.8	257.5	19.9	21.2	33.4	9.5	.0	423.8
1980	115.3	4.2	261.4	31.4	28.3	61.6	15.2	.0	400.2
1981	122.5	4.4	231.4	80.9	35.9	150.6	38.0	.0	343.9
1982	132.6	4.3	234.1	105.4	38.8	185.2	51.1	43.2	356.8
1983	146.3	4.9	238.6	132.3	53.8	138.2	43.2	379.2	305.5
1984	156.1	5.2	244.1	146.4	56.3	167.5	62.7	416.8	285.4
1985	167.7	5.9	267.2	179.2	70.2	176.5	64.5	513.6	301.4
1986	180.4	6.5	303.3	235.2	78.3	208.0	84.4	572.5	370.7
1987	196.5	7.1	288.0	259.3	77.9	221.1	89.6	525.2	414.3
1987: Jan	182.2	6.5	299.7	243.0	84.6	209.5	84.4	575.4	380.6
Feb	183.6	6.7	295.9	245.1	80.0	211.5	85.1	572.0	389.7
Mar	184.4	6.8	295.0	248.0	76.7	212.5	85.4	571.8	396.3
Apr	185.6	6.7	299.3	253.1	76.8	212.1	83.5	566.8	404.1
May	187.0	6.7	298.9	253.9	76.0	209.9	82.1	558.6	409.5
June	187.8	6.8	293.3	254.3	74.7	210.6	81.7	555.1	413.1
July	189.0	6.8	292.3	255.6	75.4	210.6	83.8	549.4	415.5
Aug	190.2	6.9	292.1	257.2	79.6	213.1	84.0	545.0	417.8
Sept	191.4	7.0	290.5	258.6	83.3	216.3	81.3	540.5	418.6
Oct	193.1	7.0	295.9	260.3	85.9	218.2	82.5	533.9	417.0
Nov	195.0	7.0	291.3	259.5	79.6	219.7	89.5	527.7	415.0
Dec	196.5	7.1	288.0	259.3	77.9	221.1	89.6	525.2	414.3
1988: Jan	198.4	7.2	289.9	263.3	82.9	225.0	94.4	524.1	414.4
Feb	199.3	7.3	287.8	265.0	78.2	231.0	98.7	522.6	416.2
Mar	200.9	7.3	287.9	266.9	75.0	234.8	97.4	524.7	419.8
Apr	202.5	7.3	290.2	270.1	76.1	235.8	91.9	523.3	422.7
May	203.6	7.4	287.4	271.9	80.8	231.8	90.0	519.6	425.1
June	204.9	7.3	289.9	274.4	81.0	228.9	86.3	522.3	429.0
July	206.3	7.2	290.6	278.2	77.8	229.6	84.8	521.1	432.0
Aug	207.2	7.2	290.1	278.0	80.1	230.8	84.0	517.0	434.2
Sept	208.5	7.3	288.4	278.2	77.6	230.8	83.7	510.7	433.4
Oct	209.5	7.4	288.6	277.9	76.0	231.2	84.6	506.7	431.3
Nov P	210.3	7.5	286.8	279.0	74.1	238.0	87.4	505.8	433.7

See next page for continuation of table.

TABLE B–68.—*Components of money stock measures and liquid assets, 1959–88*—Continued

[Averages of daily figures; billions of dollars, seasonally adjusted, except as noted]

Year and month	Small denomination time deposits [1]	Large denomination time deposits [1]	Term repurchase agreements (RPs) NSA	Term Eurodollars NSA	Savings bonds	Short-term Treasury securities	Bankers acceptances	Commercial paper
December:								
1959	11.4	1.2	0.0	0.7	46.1	38.6	0.6	3.6
1960	12.5	2.0	.0	.8	45.7	36.7	.9	5.1
1961	14.8	3.9	.0	1.5	46.5	37.0	1.1	5.2
1962	20.1	7.0	.0	1.6	46.9	39.8	1.1	6.8
1963	25.5	10.8	.0	1.9	48.1	40.7	1.2	7.7
1964	29.2	15.2	.0	2.4	49.0	38.5	1.3	9.1
1965	34.5	21.2	.0	1.8	49.6	40.7	1.6	10.2
1966	55.0	23.1	.0	2.2	50.2	43.2	1.8	14.4
1967	77.8	30.9	.0	2.2	51.2	38.7	1.8	17.8
1968	100.5	37.4	.0	2.9	51.8	46.1	2.3	22.5
1969	120.4	20.4	2.7	2.7	51.7	59.5	3.3	34.0
1970	151.1	45.3	1.6	2.2	52.0	48.8	3.5	34.5
1971	189.7	57.7	2.7	2.7	54.3	36.0	3.8	32.7
1972	231.6	73.3	3.5	3.6	57.6	40.7	3.5	35.2
1973	265.8	111.1	6.8	5.5	60.4	49.3	5.0	42.8
1974	287.9	144.8	7.9	8.1	63.3	52.8	12.6	51.2
1975	337.9	129.7	8.2	9.8	67.2	68.4	10.7	48.5
1976	390.7	118.1	14.0	14.8	71.8	69.8	10.8	52.5
1977	445.4	145.2	19.1	20.2	76.4	78.1	14.1	64.1
1978	521.0	195.5	26.6	31.8	80.3	81.1	22.0	80.7
1979	634.3	223.0	29.5	44.7	79.6	107.8	27.2	98.3
1980	728.4	260.0	34.0	50.3	72.3	133.5	32.1	98.8
1981	822.9	302.5	36.0	67.5	67.8	149.4	40.0	105.3
1982	850.5	326.7	34.5	81.7	68.0	183.5	44.5	113.6
1983	783.6	327.1	51.8	91.5	71.1	211.9	45.1	133.1
1984	883.3	416.9	61.9	82.9	74.2	260.9	45.7	160.3
1985	879.5	436.4	65.6	76.5	79.3	301.2	42.5	206.5
1986	853.2	439.2	84.6	83.8	91.6	284.2	37.8	229.9
1987	913.1	484.7	108.9	90.5	100.2	260.1	45.7	258.9
1987: Jan	850.6	440.4	84.3	85.3	92.5	280.7	38.0	236.3
Feb	848.1	443.1	88.0	88.1	93.3	280.0	38.9	239.0
Mar	847.0	445.6	88.0	88.5	94.2	267.6	39.6	239.9
Apr	845.1	448.9	95.3	84.0	95.1	257.5	40.9	246.3
May	845.9	454.0	103.5	86.8	95.9	261.4	42.1	253.7
June	852.1	458.6	108.5	87.9	96.6	259.4	43.1	252.8
July	859.1	460.2	108.4	84.5	97.5	254.6	43.4	251.8
Aug	865.9	462.4	109.2	90.1	98.1	258.6	43.5	251.8
Sept	872.1	465.3	111.4	94.2	98.4	263.3	44.3	256.6
Oct	883.3	472.3	108.8	92.7	98.8	272.8	44.5	254.2
Nov	901.7	480.5	111.7	92.5	99.3	270.9	45.0	252.5
Dec	913.1	484.7	108.9	90.5	100.2	260.1	45.7	258.9
1988: Jan	924.6	482.6	109.6	85.4	101.4	262.5	43.6	269.0
Feb	941.5	488.6	113.9	85.5	102.6	258.3	40.9	274.1
Mar	953.5	490.3	111.7	90.0	103.5	252.8	40.6	280.3
Apr	964.8	492.1	114.3	89.1	104.6	263.5	41.2	288.2
May	972.0	495.4	120.6	91.8	105.4	265.1	40.9	301.1
June	974.9	501.7	123.8	93.1	106.1	256.6	40.6	301.2
July	978.5	509.1	125.0	96.2	106.9	266.5	40.6	311.5
Aug	985.7	515.0	123.1	102.3	107.4	273.1	41.1	312.5
Sept	997.4	523.7	121.5	101.4	107.7	278.0	41.9	307.9
Oct	1,009.9	530.4	123.9	99.1	108.3	281.3	41.3	309.2
Nov [p]	1,019.0	531.6	126.4	102.2				

[1] Small denomination and large denomination deposits are those issued in amounts of less than $100,000 and more than $100,000, respectively.

Note.—NSA indicates data are not seasonally adjusted.
See also Table B–67.

Source: Board of Governors of the Federal Reserve System.

TABLE B–69.—*Aggregate reserves of depository institutions and monetary base, 1959–88*

[Averages of daily figures; millions of dollars; seasonally adjusted, except as noted]

Year and month	Adjusted for changes in reserve requirements [1]					Borrowings of depository institutions from the Federal Reserve, NSA		
	Reserves of depository institutions				Monetary base			
	Total	Nonborrowed	Nonborrowed plus extended credit	Required		Total	Seasonal	Extended credit
December:								
1959	13,711	12,770	12,770	13,205	43,435	941		
1960	13,882	13,808	13,808	13,138	43,436	74		
1961	14,316	14,183	14,183	13,732	44,471	133		
1962	14,586	14,326	14,326	14,014	45,726	260		
1963	14,892	14,560	14,560	14,402	47,987	332		
1964	15,378	15,114	15,114	14,972	50,344	264		
1965	15,934	15,490	15,490	15,510	53,031	444		
1966	15,933	15,401	15,401	15,594	55,114	532		
1967	17,350	17,122	17,122	16,975	58,545	228		
1968	18,251	17,505	17,505	17,825	62,635	746		
1969	18,523	17,404	17,404	18,237	65,762	1,119		
1970	19,436	19,103	19,103	19,187	69,800	332		
1971	20,694	20,568	20,568	20,512	74,517	126		
1972	22,788	21,738	21,738	22,504	81,084	1,050		
1973	23,817	22,519	22,519	23,513	87,624	1,298	41	
1974	25,075	24,347	24,494	24,816	94,848	727	32	147
1975	25,206	25,076	25,088	24,940	100,985	130	14	12
1976	25,749	25,696	25,696	25,475	108,557	53	13	
1977	26,795	26,225	26,225	26,605	117,689	569	55	
1978	28,094	27,226	27,226	27,862	128,295	868	135	
1979	29,394	27,921	27,921	28,952	139,276	1,473	82	
1980	31,261	29,571	29,574	30,747	150,642	1,690	116	3
1981	32,841	32,204	32,353	32,521	158,870	636	54	148
1982	35,247	34,613	34,799	34,747	171,192	634	33	186
1983	37,549	36,775	36,777	36,988	187,005	774	96	2
1984	40,959	37,773	40,377	40,106	200,449	3,186	113	2,604
1985	47,255	45,937	46,436	46,198	218,255	1,318	56	499
1986	57,456	56,629	56,932	56,087	240,799	827	38	303
1987	58,722	57,944	58,428	57,693	257,928	777	93	483
1987: Jan	57,930	57,350	57,575	56,862	243,124	580	34	225
Feb	57,899	57,342	57,625	56,687	244,524	556	71	283
Mar	57,878	57,351	57,615	56,963	245,305	527	91	264
Apr	58,770	57,777	58,047	57,943	247,301	993	120	270
May	59,100	58,064	58,352	58,021	249,014	1,035	196	288
June	58,653	57,876	58,149	57,462	249,450	776	259	273
July	58,499	57,827	58,021	57,738	250,409	672	283	194
Aug	58,810	58,163	58,295	57,778	251,919	647	279	132
Sept	58,815	57,874	58,283	58,021	253,024	940	231	409
Oct	59,466	58,523	58,973	58,338	255,296	943	189	449
Nov	59,053	58,428	58,822	58,129	256,938	625	126	394
Dec	58,722	57,944	58,428	57,693	257,928	777	93	483
1988: Jan	59,458	58,376	58,748	58,163	260,721	1,082	59	372
Feb	59,573	59,177	59,382	58,440	262,019	396	75	205
Mar	59,760	58,009	59,487	58,832	263,315	1,752	119	1,478
Apr	60,374	57,380	60,004	59,515	265,809	2,993	146	2,624
May	60,365	57,787	59,894	59,325	266,924	2,578	246	2,107
June	60,637	57,555	60,108	59,750	268,309	3,083	311	2,554
July	61,238	57,798	60,336	60,231	270,626	3,440	376	2,538
Aug	61,090	57,849	60,502	60,137	271,200	3,241	423	2,653
Sept	60,995	58,156	60,215	60,024	272,446	2,839	421	2,059
Oct	60,956	58,657	60,438	59,894	273,731	2,299	332	1,781
Nov [p]	61,055	58,194	60,516	59,936	274,473	2,861	186	2,322

[1] Aggregate reserves incorporate adjustments for discontinuities associated with the implementation of the Monetary Control Act and other regulatory changes to reserve requirements. For details on aggregate reserves series see Federal Reserve *Bulletin*.

Note.—NSA indicates data are not seasonally adjusted.

Source: Board of Governors of the Federal Reserve System.

TABLE B–70.—*Commercial bank loans and securities, 1972–88*

(Monthly average, billions of dollars, seasonally adjusted [1])

Year and month	Total loans and securities [2]	U.S. Government securities	Other securities	Loans and leases											
				Total [2]	Commercial and industrial	Real estate	Individual	Security	Nonbank financial institutions	Agricultural	State and political subdivisions	Foreign banks	Foreign official institutions	Lease financing receivables	Other
December:															
1972	572.5	89.0	93.4	390.1	137.1	98.1	86.3	15.6	21.7	14.3	.....	3.9	1.6	1.4	10.1
1973	647.9	88.2	99.4	460.3	165.0	117.3	98.6	12.9	28.5	17.2	.....	6.2	2.1	2.1	10.3
1974	713.8	86.3	107.5	520.0	196.6	130.1	102.4	12.7	34.5	18.3	.....	8.3	2.2	3.2	11.6
1975	745.3	116.7	111.2	517.3	189.3	134.4	104.9	13.5	28.9	20.1	.....	9.0	2.4	4.0	10.9
1976	804.9	136.3	113.5	555.1	190.9	148.8	116.3	17.7	26.4	23.2	.....	11.7	2.8	5.1	12.2
1977	891.9	136.6	122.7	632.6	211.0	175.2	138.3	21.0	25.8	25.8	.....	13.7	2.7	5.7	13.3
1978	1,014.3	137.6	129.3	747.5	246.2	210.5	164.7	19.7	26.2	28.2	.....	21.5	4.9	7.4	18.2
1979	1,136.1	144.3	142.0	849.8	291.4	242.0	184.5	18.7	29.3	31.1	.....	18.6	6.9	9.3	18.2
1980	1,239.1	170.6	154.7	913.9	325.7	262.7	179.2	17.9	29.3	31.6	.....	23.8	11.5	10.9	21.4
1981	1,307.5	179.3	160.9	967.3	355.4	284.2	182.5	21.3	29.9	33.1	.....	17.9	7.2	12.7	23.1
1982	1,401.3	201.7	165.7	1,033.9	392.6	300.0	188.2	25.2	31.2	36.2	.....	14.6	5.9	13.3	26.6
1983	1,553.4	259.1	170.6	1,123.7	414.1	331.0	212.9	27.8	30.5	39.2	.....	13.3	9.4	13.7	31.7
1984	1,722.9	260.0	142.6	1,320.4	472.8	376.6	253.6	33.9	31.4	40.1	45.8	11.1	7.9	16.1	31.2
1985	1,908.6	270.5	181.2	1,456.9	499.4	425.9	293.7	42.0	32.6	36.1	56.4	9.6	6.0	19.0	36.0
1986	2,089.9	309.3	196.1	1,584.5	535.6	494.0	314.4	39.1	35.0	31.6	58.1	9.6	5.9	22.4	38.7
1987	2,233.0	335.0	194.5	1,703.5	562.4	588.4	327.8	33.4	31.8	29.5	52.2	7.5	5.3	24.6	40.5
1987: Jan	2,114.0	313.7	189.5	1,610.8	547.8	505.0	315.4	38.7	35.5	31.2	56.4	9.7	6.1	22.4	42.6
Feb	2,120.3	314.9	191.8	1,613.6	547.7	510.3	315.9	39.8	35.1	30.7	56.6	9.5	6.2	22.3	39.4
Mar	2,131.1	315.8	192.9	1,622.4	545.5	518.2	316.6	40.1	35.4	30.2	56.8	9.1	6.8	22.3	41.4
Apr	2,152.6	318.7	194.1	1,639.8	548.1	526.3	317.5	44.6	35.6	29.9	56.6	9.2	6.8	22.7	42.3
May	2,166.7	322.1	195.1	1,649.5	550.6	534.6	318.8	43.6	35.8	30.0	56.5	9.1	6.1	23.0	41.5
June	2,177.6	322.3	195.4	1,659.9	552.9	545.0	318.5	44.0	34.5	30.0	56.3	9.4	5.9	23.0	40.5
July	2,183.2	323.9	194.0	1,665.3	553.1	552.2	319.6	43.9	32.4	29.8	55.8	8.8	5.7	23.0	40.9
Aug	2,202.8	329.9	193.2	1,679.8	553.8	560.1	321.9	45.5	31.4	29.7	55.0	8.8	5.7	23.2	44.7
Sept	2,220.5	333.1	193.0	1,694.5	558.4	566.6	323.5	46.2	31.3	29.6	54.9	8.8	5.6	23.5	46.1
Oct	2,230.5	332.6	193.2	1,704.7	561.4	573.7	324.6	47.1	31.6	29.6	54.5	9.1	5.7	24.0	43.4
Nov	2,235.3	332.6	195.1	1,707.5	561.3	581.2	326.3	39.3	31.8	29.5	54.1	8.2	5.5	24.6	45.8
Dec.	2,233.0	335.0	194.5	1,703.5	562.4	588.4	327.8	33.4	31.8	29.5	52.2	7.5	5.3	24.6	40.5
1988: Jan	2,244.8	336.4	192.0	1,716.5	565.2	593.7	329.8	36.5	31.4	29.6	52.3	7.6	5.4	25.1	39.8
Feb	2,264.1	336.4	193.7	1,734.0	569.3	599.2	333.0	42.1	31.8	29.5	52.3	7.4	5.1	25.3	39.1
Mar	2,281.3	340.2	195.7	1,745.4	568.6	604.9	337.0	41.2	31.2	29.3	52.1	7.8	5.1	25.4	42.7
Apr	2,304.7	343.8	196.6	1,764.3	578.1	611.3	340.4	39.5	30.4	29.4	51.9	8.3	5.1	25.7	44.1
May	2,328.5	346.5	196.1	1,786.0	586.3	618.6	342.8	39.8	30.9	29.6	51.6	8.0	5.1	26.0	47.2
June	2,348.4	350.5	196.5	1,801.5	592.4	625.0	344.4	39.4	30.6	29.7	51.5	7.9	5.0	26.5	49.0
July	2,360.8	348.0	196.8	1,815.9	598.3	631.4	345.3	38.6	31.0	29.6	50.2	8.2	5.0	27.2	51.0
Aug	2,374.9	350.5	196.4	1,827.9	599.4	638.7	347.0	40.1	30.8	29.4	49.6	8.1	5.2	27.3	52.3
Sept	2,373.6	352.5	194.2	1,826.8	597.1	644.7	349.1	36.3	29.9	29.3	49.4	7.4	5.2	27.7	50.7
Oct	2,387.5	355.1	195.4	1,836.9	600.9	652.0	349.6	38.4	29.8	29.3	48.8	7.6	5.1	28.1	47.3
Nov [p]	2,398.1	356.8	194.8	1,846.5	599.2	659.2	350.8	37.5	29.8	29.8	48.0	8.2	5.4	28.1	50.5

[1] Data are prorated averages of Wednesday figures for domestically chartered banks and averages of weekly data for foreign-related institutions beginning July 1981. Prior to July 1981, data for foreign-related institutions are averages of current and previous month-end data. Lease financing receivables are included in total loans and investments and in total loans.

[2] Excludes loans to commercial banks in the United States.

Note.—Data are not strictly comparable because of breaks in the series.

Source: Board of Governors of the Federal Reserve System.

TABLE B–71.—*Bond yields and interest rates, 1929–88*

[Percent per annum]

Year and month	U.S. Treasury securities				Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields (FHLBB) [4]	Commercial paper, 6 months [5]	Prime rate charged by banks [6]	Discount rate, Federal Reserve Bank of New York [6]	Federal funds rate [7]
	Bills (new issues) [1]		Constant maturities [2]									
	3-month	6-month	3-year	10-year	Aaa [3]	Baa						
1929					4.73	5.90	4.27		5.85	5.50–6.00	5.16	
1933	0.515				4.49	7.76	4.71		1.73	1.50–4.00	2.56	
1939	.023				3.01	4.96	2.76		.59	1.50	1.00	
1940	.014				2.84	4.75	2.50		.56	1.50	1.00	
1941	.103				2.77	4.33	2.10		.53	1.50	1.00	
1942	.326				2.83	4.28	2.36		.66	1.50	[8] 1.00	
1943	.373				2.73	3.91	2.06		.69	1.50	[8] 1.00	
1944	.375				2.72	3.61	1.86		.73	1.50	[8] 1.00	
1945	.375				2.62	3.29	1.67		.75	1.50	[8] 1.00	
1946	.375				2.53	3.05	1.64		.81	1.50	[8] 1.00	
1947	.594				2.61	3.24	2.01		1.03	1.50–1.75	1.00	
1948	1.040				2.82	3.47	2.40		1.44	1.75–2.00	1.34	
1949	1.102				2.66	3.42	2.21		1.49	2.00	1.50	
1950	1.218				2.62	3.24	1.98		1.45	2.07	1.59	
1951	1.552				2.86	3.41	2.00		2.16	2.56	1.75	
1952	1.766				2.96	3.52	2.19		2.33	3.00	1.75	
1953	1.931		2.47	2.85	3.20	3.74	2.72		2.52	3.17	1.99	
1954	.953		1.63	2.40	2.90	3.51	2.37		1.58	3.05	1.60	
1955	1.753		2.47	2.82	3.06	3.53	2.53		2.18	3.16	1.89	1.78
1956	2.658		3.19	3.18	3.36	3.88	2.93		3.31	3.77	2.77	2.73
1957	3.267		3.98	3.65	3.89	4.71	3.60		3.81	4.20	3.12	3.11
1958	1.839		2.84	3.32	3.79	4.73	3.56		2.46	3.83	2.15	1.57
1959	3.405	3.832	4.46	4.33	4.38	5.05	3.95		3.97	4.48	3.36	3.30
1960	2.928	3.247	3.98	4.12	4.41	5.19	3.73		3.85	4.82	3.53	3.22
1961	2.378	2.605	3.54	3.88	4.35	5.08	3.46		2.97	4.50	3.00	1.96
1962	2.778	2.908	3.47	3.95	4.33	5.02	3.18		3.26	4.50	3.00	2.68
1963	3.157	3.253	3.67	4.00	4.26	4.86	3.23	5.89	3.55	4.50	3.23	3.18
1964	3.549	3.686	4.03	4.19	4.40	4.83	3.22	5.82	3.97	4.50	3.55	3.50
1965	3.954	4.055	4.22	4.28	4.49	4.87	3.27	5.81	4.38	4.54	4.04	4.07
1966	4.881	5.082	5.23	4.92	5.13	5.67	3.82	6.25	5.55	5.63	4.50	5.11
1967	4.321	4.630	5.03	5.07	5.51	6.23	3.98	6.46	5.10	5.61	4.19	4.22
1968	5.339	5.470	5.68	5.65	6.18	6.94	4.51	6.97	5.90	6.30	5.16	5.66
1969	6.677	6.853	7.02	6.67	7.03	7.81	5.81	7.80	7.83	7.96	5.87	8.20
1970	6.458	6.562	7.29	7.35	8.04	9.11	6.51	8.45	7.71	7.91	5.95	7.18
1971	4.348	4.511	5.65	6.16	7.39	8.56	5.70	7.74	5.11	5.72	4.88	4.66
1972	4.071	4.466	5.72	6.21	7.21	8.16	5.27	7.60	4.73	5.25	4.50	4.43
1973	7.041	7.178	6.95	6.84	7.44	8.24	5.18	7.96	8.15	8.03	6.44	8.73
1974	7.886	7.926	7.82	7.56	8.57	9.50	6.09	8.92	9.84	10.81	7.83	10.50
1975	5.838	6.122	7.49	7.99	8.83	10.61	6.89	9.00	6.32	7.86	6.25	5.82
1976	4.989	5.266	6.77	7.61	8.43	9.75	6.49	9.00	5.34	6.84	5.50	5.04
1977	5.265	5.510	6.69	7.42	8.02	8.97	5.56	9.02	5.61	6.83	5.46	5.54
1978	7.221	7.572	8.29	8.41	8.73	9.49	5.90	9.56	7.99	9.06	7.46	7.93
1979	10.041	10.017	9.71	9.44	9.63	10.69	6.39	10.78	10.91	12.67	10.28	11.19
1980	11.506	11.374	11.55	11.46	11.94	13.67	8.51	12.66	12.29	15.27	11.77	13.36
1981	14.029	13.776	14.44	13.91	14.17	16.04	11.23	14.70	14.76	18.87	13.42	16.38
1982	10.686	11.084	12.92	13.00	13.79	16.11	11.57	15.14	11.88	14.86	11.02	12.26
1983	8.63	8.75	10.45	11.10	12.04	13.55	9.47	12.57	8.89	10.79	8.50	9.09
1984	9.58	9.80	11.89	12.44	12.71	14.19	10.15	12.38	10.16	12.04	8.80	10.23
1985	7.48	7.66	9.64	10.62	11.37	12.72	9.18	11.55	8.01	9.93	7.69	8.10
1986	5.98	6.03	7.06	7.68	9.02	10.39	7.38	10.17	6.39	8.33	6.33	6.81
1987	5.82	6.05	7.68	8.39	9.38	10.58	7.73	9.31	6.85	8.22	5.66	6.66
1988 [p]	6.69	6.92	8.26	8.85	9.71	10.83	7.76		7.68	9.32	6.20	7.57
										High-low	High-low	
1983:												
Jan	7.810	7.898	9.64	10.46	11.79	13.94	9.45	13.49	8.15	11.50–11.00	8.50– 8.50	8.68
Feb	8.130	8.233	9.91	10.72	12.01	13.95	9.48	13.16	8.39	11.00–10.50	8.50– 8.50	8.51
Mar	8.304	8.325	9.84	10.51	11.73	13.61	9.16	13.41	8.48	10.50–10.50	8.50– 8.50	8.77
Apr	8.252	8.343	9.76	10.40	11.51	13.29	8.96	12.42	8.48	10.50–10.50	8.50– 8.50	8.80
May	8.19	8.20	9.66	10.38	11.46	13.09	9.03	12.67	8.31	10.50–10.50	8.50– 8.50	8.63
June	8.82	8.89	10.32	10.85	11.74	13.37	9.51	12.36	9.03	10.50–10.50	8.50– 8.50	8.98
July	9.12	9.29	10.90	11.38	12.15	13.39	9.46	12.50	9.36	10.50–10.50	8.50– 8.50	9.37
Aug	9.39	9.53	11.30	11.85	12.51	13.64	9.72	12.38	9.68	11.00–10.50	8.50– 8.50	9.56
Sept	9.05	9.19	11.07	11.65	12.37	13.55	9.57	12.54	9.28	11.00–11.00	8.50– 8.50	9.45
Oct	8.71	8.90	10.87	11.54	12.25	13.46	9.64	12.25	8.98	11.00–11.00	8.50– 8.50	9.48
Nov	8.71	8.89	10.96	11.69	12.41	13.61	9.79	12.34	9.09	11.00–11.00	8.50– 8.50	9.34
Dec	8.96	9.14	11.13	11.83	12.57	13.75	9.90	12.42	9.50	11.00–11.00	8.50– 8.50	9.47

[1] Rate on new issues within period; bank-discount basis.
[2] Yields on the more actively traded issues adjusted to constant maturities by the Treasury Department.
[3] Series excludes public utility issues for January 17, 1984 through October 11, 1984 due to lack of appropriate issues.
[4] Effective rate (in the primary market) on conventional mortgages, reflecting fees and charges as well as contract rate and assuming, on the average, repayment at end of 10 years. Rates beginning January 1973 not strictly comparable with prior rates.

See next page for continuation of table.

TABLE B–71.—*Bond yields and interest rates, 1929–88*—Continued

[Percent per annum]

Year and month	U.S. Treasury securities				Corporate bonds (Moody's)		High-grade municipal bonds (Standard & Poor's)	New-home mortgage yields (FHLBB) [4]	Commercial paper, 6 months [5]	Prime rate charged by banks [6]	Discount rate, Federal Reserve Bank of New York [6]	Federal funds rate [7]
	Bills (new issues) [1]		Constant maturities [2]									
	3-month	6-month	3-year	10-year	Aaa [3]	Baa				High-low	High-low	
1984:												
Jan	8.93	9.06	10.93	11.67	12.20	13.65	9.61	12.29	9.18	11.00–11.00	8.50– 8.50	9.56
Feb	9.03	9.13	11.05	11.84	12.08	13.59	9.63	12.23	9.31	11.00–11.00	8.50– 8.50	9.59
Mar	9.44	9.58	11.59	12.32	12.57	13.99	9.92	12.02	9.86	11.50–11.00	8.50– 8.50	9.91
Apr	9.69	9.83	11.98	12.63	12.81	14.31	9.98	12.04	10.22	12.00–11.50	9.00– 8.50	10.29
May	9.90	10.31	12.75	13.41	13.28	14.74	10.55	12.18	10.87	12.50–12.00	9.00– 9.00	10.32
June	9.94	10.55	13.18	13.56	13.55	15.05	10.71	12.10	11.23	13.00–12.50	9.00– 9.00	11.06
July	10.13	10.58	13.08	13.36	13.44	15.15	10.50	12.50	11.34	13.00–13.00	9.00– 9.00	11.23
Aug	10.49	10.65	12.50	12.72	12.87	14.63	10.03	12.43	11.16	13.00–13.00	9.00– 9.00	11.64
Sept	10.41	10.51	12.34	12.52	12.66	14.35	10.17	12.53	10.94	13.00–12.75	9.00– 9.00	11.30
Oct	9.97	10.05	11.85	12.16	12.63	13.94	10.34	12.77	10.16	12.75–12.00	9.00– 9.00	9.99
Nov	8.79	8.99	10.90	11.57	12.29	13.48	10.27	12.75	9.06	12.00–11.25	9.00– 8.50	9.43
Dec	8.16	8.36	10.56	11.50	12.13	13.40	10.04	12.55	8.55	11.25–10.75	8.50– 8.00	8.38
1985:												
Jan	7.76	8.03	10.43	11.38	12.08	13.26	9.55	12.27	8.15	10.75–10.50	8.00– 8.00	8.35
Feb	8.22	8.34	10.55	11.51	12.13	13.23	9.66	12.21	8.69	10.50–10.50	8.00– 8.00	8.50
Mar	8.57	8.92	11.05	11.86	12.56	13.69	9.79	11.92	9.23	10.50–10.50	8.00– 8.00	8.58
Apr	8.00	8.31	10.49	11.43	12.23	13.51	9.48	12.05	8.47	10.50–10.50	8.00– 8.00	8.27
May	7.56	7.75	9.75	10.85	11.72	13.15	9.08	12.01	7.88	10.50–10.00	8.00– 7.50	7.97
June	7.01	7.16	9.05	10.16	10.94	12.40	8.78	11.75	7.38	10.00– 9.50	7.50– 7.50	7.53
July	7.05	7.16	9.18	10.31	10.97	12.43	8.90	11.34	7.57	9.50– 9.50	7.50– 7.50	7.88
Aug	7.18	7.35	9.31	10.33	11.05	12.50	9.18	11.24	7.74	9.50– 9.50	7.50– 7.50	7.90
Sept	7.08	7.27	9.37	10.37	11.07	12.48	9.37	11.17	7.86	9.50– 9.50	7.50– 7.50	7.92
Oct	7.17	7.32	9.25	10.24	11.02	12.36	9.24	11.09	7.79	9.50– 9.50	7.50– 7.50	7.99
Nov	7.20	7.26	8.88	9.78	10.55	11.99	8.64	11.01	7.69	9.50– 9.50	7.50– 7.50	8.05
Dec	7.07	7.09	8.40	9.26	10.16	11.58	8.51	10.94	7.62	9.50– 9.50	7.50– 7.50	8.27
1986:												
Jan	7.04	7.13	8.41	9.19	10.05	11.44	8.06	10.89	7.62	9.50– 9.50	7.50– 7.50	8.14
Feb	7.03	7.08	8.10	8.70	9.67	11.11	7.44	10.68	7.54	9.50– 9.50	7.50– 7.50	7.86
Mar	6.59	6.60	7.30	7.78	9.00	10.49	7.07	10.50	7.08	9.50– 9.00	7.50– 7.00	7.48
Apr	6.06	6.07	6.86	7.30	8.79	10.19	7.32	10.27	6.47	9.00– 8.50	7.00– 6.50	6.99
May	6.12	6.16	7.27	7.71	9.09	10.29	7.67	10.22	6.53	8.50– 8.50	6.50– 6.50	6.85
June	6.21	6.28	7.41	7.80	9.13	10.34	7.98	10.15	6.63	8.50– 8.50	6.50– 6.50	6.92
July	5.84	5.85	6.86	7.30	8.88	10.16	7.62	10.30	6.24	8.50– 8.00	6.50– 6.00	6.56
Aug	5.57	5.58	6.49	7.17	8.72	10.18	7.31	10.26	5.83	8.00– 7.50	6.00– 5.50	6.17
Sept	5.19	5.31	6.62	7.45	8.89	10.21	7.14	10.17	5.61	7.50– 7.50	5.50– 5.50	5.89
Oct	5.18	5.26	6.56	7.43	8.86	10.24	7.12	10.02	5.61	7.50– 7.50	5.50– 5.50	5.85
Nov	5.35	5.42	6.46	7.25	8.68	10.07	6.86	9.91	5.69	7.50– 7.50	5.50– 5.50	6.04
Dec	5.49	5.53	6.43	7.11	8.49	9.97	6.93	9.69	5.88	7.50– 7.50	5.50– 5.50	6.91
1987:												
Jan	5.45	5.47	6.41	7.08	8.36	9.72	6.63	9.51	5.76	7.50– 7.50	5.50– 5.50	6.43
Feb	5.59	5.60	6.56	7.25	8.38	9.65	6.66	9.23	5.99	7.50– 7.50	5.50– 5.50	6.10
Mar	5.56	5.56	6.58	7.25	8.36	9.61	6.71	9.14	6.10	7.50– 7.50	5.50– 5.50	6.13
Apr	5.76	5.93	7.32	8.02	8.85	10.04	7.62	9.21	6.50	7.75– 7.75	5.50– 5.50	6.37
May	5.75	6.11	8.02	8.61	9.33	10.51	8.10	9.37	7.04	8.25– 8.00	5.50– 5.50	6.85
June	5.69	5.99	7.82	8.40	9.32	10.52	7.89	9.45	7.00	8.25– 8.25	5.50– 5.50	6.73
July	5.78	5.86	7.74	8.45	9.42	10.61	7.83	9.41	6.72	8.25– 8.25	5.50– 5.50	6.58
Aug	6.00	6.14	8.03	8.76	9.67	10.80	7.90	9.38	6.81	8.25– 8.25	5.50– 5.50	6.73
Sept	6.32	6.57	8.67	9.42	10.18	11.31	8.36	9.37	7.55	8.75– 8.25	6.00– 5.50	7.22
Oct	6.40	6.86	8.75	9.52	10.52	11.62	8.84	9.25	7.96	9.25– 8.75	6.00– 6.00	7.29
Nov	5.81	6.23	7.99	8.86	10.01	11.23	8.09	9.30	7.17	9.00– 8.75	6.00– 6.00	6.69
Dec	5.80	6.36	8.13	8.99	10.11	11.29	8.07	9.15	7.49	8.75– 8.75	6.00– 6.00	6.77
1988:												
Jan	5.90	6.31	7.87	8.67	9.88	11.07	7.81	9.10	6.92	8.75– 8.75	6.00– 6.00	6.83
Feb	5.69	5.96	7.38	8.21	9.40	10.62	7.55	9.12	6.58	8.75– 8.50	6.00– 6.00	6.58
Mar	5.69	5.91	7.50	8.37	9.39	10.57	7.80	9.15	6.64	8.50– 8.50	6.00– 6.00	6.58
Apr	5.92	6.21	7.83	8.72	9.67	10.90	7.91	9.13	6.92	8.50– 8.50	6.00– 6.00	6.87
May	6.27	6.53	8.24	9.09	9.90	11.04	8.01	8.95	7.31	9.00– 8.50	6.00– 6.00	7.09
June	6.50	6.76	8.22	8.92	9.86	11.00	7.86	9.26	7.53	9.00– 9.00	6.00– 6.00	7.51
July	6.73	6.97	8.44	9.06	9.96	11.11	7.87	9.17	7.90	9.50– 9.00	6.00– 6.00	7.75
Aug	7.02	7.36	8.77	9.26	10.11	11.21	7.86	9.06	8.36	10.00– 9.50	6.50– 6.00	8.01
Sept	7.23	7.43	8.57	8.98	9.82	10.90	7.71	9.26	8.23	10.00–10.00	6.50– 6.50	8.19
Oct	7.34	7.50	8.43	8.80	9.51	10.41	7.54	9.10	8.24	10.00–10.00	6.50– 6.50	8.30
Nov	7.68	7.76	8.72	8.96	9.45	10.48	7.58	9.43	8.55	10.50–10.00	6.50– 6.50	8.35
Dec [p]	8.09	8.24	9.11	9.10	9.56	10.64	7.66	.....	8.98	10.50–10.50	6.50– 6.50	8.74

[1] Bank-discount basis; prior to November 1979, data are for 4–6 months paper.

[2] For monthly data, high and low for the period. Prime rate for 1929–33 and 1947–48 are ranges of the rate in effect during the period.

[3] Since July 19, 1975, the daily effective rate is an average of the rates on a given day weighted by the volume of transactions at these rates. Prior to that date, the daily effective rate was the rate considered most representative of the day's transactions, usually the one at which most transactions occurred.

[4] From October 30, 1942, to April 24, 1946, a preferential rate of 0.50 percent was in effect for advances secured by Government securities maturing in 1 year or less.

Sources: Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Home Loan Bank Board (FHLBB), Moody's Investors Service, and Standard & Poor's Corporation.

TABLE B–72.—*Total funds raised in credit markets by nonfinancial sectors, 1979–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Item	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Net credit market borrowing by nonfinancial sectors								
Total net borrowing by domestic nonfinancial sectors	383.5	343.1	370.8	388.7	546.8	750.8	846.3	830.6	680.6
U.S. Government	37.4	79.2	87.4	161.3	186.6	198.8	223.6	215.0	143.8
Treasury issues	38.8	79.8	87.8	162.1	186.7	199.0	223.7	214.7	142.3
Agency issues and mortgages	−1.4	−.6	−.5	−.9	−.1	−.2	−.1	.4	1.5
Private domestic nonfinancial sectors	346.2	263.9	283.5	227.4	360.2	552.0	622.7	615.6	536.8
Debt capital instruments	212.5	190.8	155.3	151.1	257.6	319.3	452.3	460.7	446.1
Tax-exempt obligations	30.3	30.3	23.4	44.2	53.7	50.4	136.4	30.8	34.5
Corporate bonds	17.3	27.7	22.8	18.7	16.0	46.1	73.8	121.3	99.9
Mortgages	164.9	132.9	109.2	88.2	187.9	222.8	242.2	308.6	311.6
Home mortgages	116.6	95.3	72.4	53.4	120.4	136.7	156.8	210.9	221.7
Multi-family residential	10.0	7.6	4.8	5.4	14.1	25.2	29.8	33.5	24.3
Commercial	24.4	19.2	22.2	25.2	51.0	62.2	62.2	73.6	72.0
Farm	14.0	10.7	9.7	4.1	2.4	−1.2	−6.6	−9.5	−6.4
Other debt instruments	133.7	73.1	128.1	76.4	102.6	232.7	170.3	154.9	90.7
Consumer credit	40.5	2.6	16.9	16.4	49.0	81.6	82.5	54.4	40.7
Bank loans n.e.c.	48.5	36.5	48.1	50.4	23.2	67.1	38.6	69.3	8.8
Open-market paper	9.0	4.0	14.7	−6.1	−.8	21.7	14.6	−9.3	2.3
Other	35.6	30.0	48.5	15.8	31.3	62.2	34.6	40.5	38.9
By borrowing sector:									
State and local governments	17.6	17.2	5.8	21.5	34.0	27.4	91.8	44.3	34.4
Households	171.5	117.3	113.9	84.0	186.1	231.5	283.6	286.1	261.5
Nonfinancial business	157.0	129.4	162.8	121.9	140.1	293.1	247.3	285.1	240.8
Farm	23.5	15.8	16.3	6.7	3.9	−.4	−14.5	−16.3	−11.2
Nonfarm noncorporate	65.6	55.8	44.4	71.8	81.9	123.2	129.3	127.6	115.8
Corporate	68.0	57.8	102.1	43.4	54.4	170.3	132.4	173.8	136.3
Foreign net borrowing in United States	15.0	24.2	23.5	16.0	17.3	8.4	1.2	9.6	4.3
Bonds	3.7	1.2	5.5	6.6	3.1	3.8	3.8	3.0	6.8
Bank loans n.e.c.	3.1	11.8	3.0	−5.5	3.6	−6.6	−2.8	−1.0	−3.6
Open-market paper	1.7	2.4	3.9	1.9	6.5	6.2	6.2	11.5	2.1
U.S. Government and other loans	6.5	8.8	11.1	13.0	4.1	5.0	−5.9	−3.9	−1.0
Total domestic plus foreign	398.5	367.2	394.3	404.7	564.1	759.2	847.5	840.2	685.0
	Direct and indirect supply of funds to credit markets								
Total funds supplied to domestic nonfinancial sectors	383.5	343.1	370.8	388.7	546.8	750.8	846.3	830.6	680.6
Private domestic nonfinancial sectors	254.8	233.2	284.4	303.3	378.7	494.6	503.7	371.8	329.2
Deposits and currency	147.4	185.9	223.1	210.8	227.8	325.4	220.9	285.0	162.4
Checkable deposits and currency	27.8	17.4	28.1	28.3	43.1	36.6	53.3	107.7	16.6
Time and savings deposits	74.8	127.4	84.2	133.4	207.1	235.0	146.2	109.2	103.5
Money market fund shares	33.0	28.5	102.2	33.5	−39.0	49.0	8.9	41.5	28.2
Security repurchase agreements	6.7	9.8	10.2	16.1	13.5	10.0	14.6	20.8	16.9
Foreign deposits	5.1	2.8	−1.7	−.4	3.1	−5.1	−2.1	5.9	−2.8
Credit market instruments	107.4	47.3	61.3	92.5	150.9	169.2	282.9	86.7	166.8
Foreign funds	16.0	.2	2.9	−8.6	38.2	66.7	82.0	110.7	106.2
At banks	26.4	−25.1	−22.6	−32.3	14.6	8.8	19.7	12.9	43.7
Credit market instruments	−10.4	25.3	25.5	23.7	23.7	57.9	62.3	97.8	62.5
U.S. Government and related loans, net	16.3	3.9	10.2	8.3	9.0	16.5	28.0	18.7	3.7
U.S. Government cash balances	.4	−2.6	−1.1	6.1	−5.3	4.0	10.3	1.7	−5.8
Private insurance and pension reserves	74.7	86.1	83.4	114.7	115.0	124.0	131.9	144.3	175.0
Other sources	21.2	22.3	−9.0	−35.0	11.2	45.0	90.4	183.5	72.4

See next page for continuation of table.

TABLE B–72.—*Total funds raised in credit markets by nonfinancial sectors, 1979–88*—Continued

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Item	1987				1988		
	I	II	III	IV	I	II	III
Net credit market borrowing by nonfinancial sectors							
Total net borrowing by domestic nonfinancial sectors	552.0	751.7	652.1	766.8	731.8	704.0	760.4
U.S. Government	161.6	145.2	101.8	166.7	226.3	87.6	195.5
Treasury issues	157.7	147.1	102.7	161.8	226.8	79.8	174.6
Agency issues and mortgages	3.9	−1.9	−.9	5.0	−.5	7.7	20.9
Private domestic nonfinancial sectors	390.3	606.4	550.3	600.1	505.6	616.5	564.9
Debt capital instruments	473.3	466.7	428.1	416.1	363.3	452.2	457.1
Tax-exempt obligations	39.7	33.1	32.7	33.5	24.8	32.6	44.4
Corporate bonds	128.9	88.5	100.7	81.6	101.3	118.4	90.8
Mortgages	305.7	345.1	294.7	301.1	237.1	301.2	322.0
Home mortgages	224.2	243.5	212.1	206.9	177.9	228.0	210.1
Multi-family residential	27.4	30.9	23.1	15.9	21.4	14.0	33.5
Commercial	66.5	77.2	64.1	80.2	43.2	60.8	72.7
Farm	−12.4	−6.6	−4.7	−1.9	−5.4	−1.6	5.7
Other debt instruments	−83.0	139.7	122.2	184.0	142.3	164.2	107.8
Consumer credit	−.3	52.4	61.4	49.4	34.8	59.5	43.3
Bank loans n.e.c.	−107.8	36.6	21.0	85.3	40.4	74.2	2.6
Open-market paper	−.5	4.7	1.0	3.9	−3.8	4.0	11.1
Other	25.5	46.1	38.7	45.5	70.9	26.6	50.7
By borrowing sector:	390.3	606.4	550.3	600.1	505.6	616.5	564.9
State and local governments	37.0	31.4	34.8	34.6	22.3	31.1	41.3
Households	197.3	302.7	281.2	264.9	220.0	288.0	250.9
Nonfinancial business	156.0	272.4	234.2	300.7	263.3	297.3	272.7
Farm	−23.5	−12.7	−9.4	.8	−12.5	−3.6	1.3
Nonfarm noncorporate	108.4	125.7	105.4	123.8	91.0	87.1	120.3
Corporate	71.2	159.4	138.3	176.1	184.9	213.9	151.1
Foreign net borrowing in United States	−8.7	−.1	12.3	13.9	−1.0	4.9	9.7
Bonds	3.0	−4.1	6.7	21.6	16.8	−2.9	7.4
Bank loans n.e.c.	−1.2	−3.5	−3.7	−6.1	.7	−3.5	.3
Open-market paper	−4.2	−6.4	21.6	−2.5	1.5	6.4	10.7
U.S. Government and other loans	−6.4	13.9	−12.3	.8	−19.9	4.9	−8.8
Total domestic plus foreign	543.3	751.6	664.3	780.7	730.9	709.0	770.1
Direct and indirect supply of funds to credit markets							
Total funds supplied to domestic nonfinancial sectors	552.0	751.7	652.1	766.8	731.8	704.0	760.4
Private domestic nonfinancial sectors	44.3	388.5	349.1	534.9	275.8	315.8	472.9
Deposits and currency	−46.6	149.2	229.3	317.6	282.7	134.9	256.7
Checkable deposits and currency	−89.3	52.8	51.8	51.2	12.5	33.4	16.9
Time and savings deposits	45.1	74.1	80.1	214.7	207.1	117.9	194.1
Money market fund shares	14.4	2.4	32.7	63.3	59.1	−34.8	13.0
Security repurchase agreements	22.1	24.3	46.6	−25.6	17.3	22.7	−.4
Foreign deposits	−38.9	−4.4	18.1	13.9	−13.3	−4.3	33.1
Credit market instruments	90.9	239.3	119.8	217.3	−6.9	180.9	216.2
Foreign funds	80.0	119.9	118.7	106.2	92.8	188.9	19.0
At banks	14.9	35.1	99.5	25.2	−80.1	106.6	−39.2
Credit market instruments	65.1	84.8	19.1	81.0	172.9	82.2	58.2
U.S. Government and related loans, net	21.0	−2.2	−5.8	1.7	−27.5	−9.4	−11.4
U.S. Government cash balances	−36.9	43.6	6.1	−36.1	53.3	−17.5	−1.9
Private insurance and pension reserves	195.1	191.1	194.8	118.9	247.6	207.8	173.7
Other sources	248.5	10.8	−10.8	41.2	89.9	18.5	108.0

Source: Board of Governors of the Federal Reserve System.

TABLE B–73.—*Mortgage debt outstanding by type of property and of financing, 1939–88*

[Billions of dollars]

End of year or quarter	All properties	Farm properties	Nonfarm properties				Nonfarm properties by type of mortgage					
							Government underwritten				Conventional [2]	
								1- to 4-family houses				
			Total	1- to 4-family houses	Multifamily properties	Commercial properties	Total [1]	Total	FHA insured	VA guaranteed	Total	1- to 4-family houses
1939	35.5	6.6	28.9	16.3	5.6	7.0	1.8	1.8	1.8	.....	27.1	14.5
1940	36.5	6.5	30.0	17.4	5.7	6.9	2.3	2.3	2.3	.....	27.7	15.1
1941	37.6	6.4	31.2	18.4	5.9	7.0	3.0	3.0	3.0	.....	28.2	15.4
1942	36.7	6.0	30.8	18.2	5.8	6.7	3.7	3.7	3.7	.....	27.1	14.5
1943	35.3	5.4	29.9	17.8	5.8	6.3	4.1	4.1	4.1	.....	25.8	13.7
1944	34.7	4.9	29.7	17.9	5.6	6.2	4.2	4.2	4.2	.....	25.5	13.7
1945	35.5	4.8	30.8	18.6	5.7	6.4	4.3	4.3	4.1	0.2	26.5	14.3
1946	41.8	4.9	36.9	23.0	6.1	7.7	6.3	6.1	3.7	2.4	30.6	16.9
1947	48.9	5.1	43.9	28.2	6.6	9.1	9.8	9.3	3.8	5.5	34.1	18.9
1948	56.2	5.3	50.9	33.3	7.5	10.2	13.6	12.5	5.3	7.2	37.3	20.8
1949	62.7	5.6	57.1	37.6	8.6	10.8	17.1	15.0	6.9	8.1	40.0	22.6
1950	72.8	6.1	66.7	45.2	10.1	11.5	22.1	18.8	8.5	10.3	44.7	26.3
1951	82.3	6.7	75.6	51.7	11.5	12.5	26.6	22.9	9.7	13.2	49.1	28.9
1952	91.4	7.2	84.2	58.5	12.3	13.4	29.3	25.4	10.8	14.6	54.9	33.2
1953	101.3	7.7	93.6	66.1	12.9	14.5	32.1	28.1	12.0	16.1	61.5	38.0
1954	113.7	8.2	105.4	75.7	13.5	16.3	36.2	32.1	12.8	19.3	69.3	43.6
1955	129.9	9.0	120.9	88.2	14.3	18.3	42.9	38.9	14.3	24.6	78.0	49.3
1956	144.5	9.8	134.6	99.0	14.9	20.7	47.8	43.9	15.5	28.4	86.8	55.1
1957	156.5	10.4	146.1	107.6	15.3	23.2	51.6	47.2	16.5	30.7	94.6	60.4
1958	171.8	11.1	160.7	117.7	16.8	26.1	55.2	50.1	19.7	30.4	105.5	67.6
1959	190.8	12.1	178.7	130.9	18.7	29.2	59.3	53.8	23.8	30.0	119.4	77.0
1960	207.5	12.8	194.7	141.9	20.3	32.4	62.3	56.4	26.7	29.7	132.3	85.5
1961	228.0	13.9	214.1	154.6	23.0	36.5	65.6	59.1	29.5	29.6	148.5	95.5
1962	251.4	15.2	236.2	169.3	25.8	41.1	69.4	62.2	32.3	29.9	166.9	107.1
1963	278.5	16.8	261.7	186.4	29.0	46.2	73.4	65.9	35.0	30.9	188.2	120.5
1964	305.9	18.9	287.0	203.4	33.6	50.0	77.2	69.2	38.3	30.9	209.8	134.1
1965	333.3	21.2	312.1	220.5	37.2	54.5	81.2	73.1	42.0	31.1	231.0	147.4
1966	356.5	23.1	333.4	232.9	40.3	60.1	84.1	76.1	44.8	31.3	249.3	156.9
1967	381.2	25.1	356.1	247.3	43.9	64.8	88.2	79.9	47.4	32.5	267.9	167.4
1968	411.1	27.5	383.5	264.8	47.3	71.4	93.4	84.4	50.6	33.8	290.1	180.4
1969	441.6	29.4	412.2	283.2	52.2	76.9	100.2	90.2	54.5	35.7	312.0	193.0
1970	473.7	30.5	443.2	297.4	60.1	85.6	109.2	97.3	59.9	37.3	333.9	200.2
1971	524.2	32.4	491.8	325.9	70.1	95.9	120.7	105.2	65.7	39.5	371.1	220.7
1972	597.4	35.4	562.0	366.5	82.8	112.7	131.1	113.0	68.2	44.7	430.9	253.5
1973	672.6	39.8	632.8	407.9	93.1	131.7	135.0	116.2	66.2	50.0	497.7	291.7
1974	732.5	44.9	687.5	440.7	100.0	146.9	140.2	121.3	65.1	56.2	547.3	319.4
1975	791.9	49.9	742.0	482.1	100.6	159.3	147.0	127.7	66.1	61.6	595.0	354.3
1976	878.6	55.4	823.2	546.3	105.7	171.2	154.1	133.5	66.5	67.0	669.0	412.8
1977	1,010.3	63.9	946.4	642.7	114.0	189.7	161.7	141.6	68.0	73.6	784.6	501.0
1978	1,163.0	72.8	1,090.2	753.5	124.9	211.8	176.4	153.4	71.4	82.0	913.9	600.2
1979	1,328.4	86.8	1,241.7	870.5	134.9	236.3	199.0	172.9	81.0	92.0	1,042.7	697.6
1980	1,460.4	97.5	1,362.9	965.1	142.3	255.5	225.1	195.2	93.6	101.6	1,137.8	769.9
1981	1,566.7	107.2	1,459.5	1,039.8	142.1	277.5	238.9	207.6	101.3	106.2	1,220.6	832.2
1982	1,637.9	111.3	1,526.7	1,080.4	145.7	300.9	248.9	217.9	108.0	109.9	1,277.8	862.2
1983	1,825.4	113.7	1,711.7	1,198.5	160.7	352.4	279.8	248.8	127.4	121.4	1,431.9	949.6
1984	2,051.4	112.4	1,939.0	1,334.3	185.4	419.3	294.8	265.9	136.7	129.1	1,644.2	1,068.5
1985	2,289.8	105.9	2,184.0	1,488.0	214.5	481.5	328.3	288.8	153.0	135.8	1,855.7	1,199.2
1986	2,597.2	95.8	2,501.4	1,698.5	247.8	555.0	370.7	328.9	185.5	143.4	2,130.7	1,369.7
1987	2,943.1	88.9	2,854.3	1,925.2	273.8	655.2	430.9	387.4	235.5	151.9	2,423.4	1,537.8
1986: I	2,341.0	104.2	2,236.8	1,517.4	222.1	497.3	339.9	299.1	150.6	138.5	1,896.9	1,218.3
II	2,410.4	101.1	2,309.3	1,568.7	230.1	510.6	349.7	308.3	168.9	139.4	1,959.6	1,260.4
III	2,498.6	99.1	2,399.5	1,634.8	238.5	526.2	360.4	319.5	176.8	142.7	2,039.1	1,315.3
IV	2,597.2	95.8	2,501.4	1,698.5	247.8	555.0	370.7	328.9	185.5	143.4	2,130.7	1,369.7
1987: I	2,698.8	92.8	2,606.0	1,746.8	258.2	601.0	386.0	344.0	196.6	147.4	2,220.0	1,402.8
II	2,792.7	91.3	2,701.4	1,817.5	263.9	620.1	403.7	360.9	211.6	149.3	2,297.7	1,456.5
III	2,864.7	90.0	2,774.8	1,870.6	268.9	635.2	421.2	378.1	226.9	151.2	2,353.6	1,492.6
IV	2,943.1	88.9	2,854.3	1,925.2	273.8	655.2	430.9	387.4	235.5	151.9	2,423.4	1,537.8
1988: I	2,988.1	88.2	2,899.9	1,955.8	277.6	666.5	438.9	395.2	241.7	153.6	2,461.0	1,560.5
II	3,067.6	87.9	2,979.6	2,015.6	282.5	681.5	443.0	398.8	245.3	153.6	2,536.7	1,616.8
III	3,152.0	87.4	3,064.5	2,081.0	285.6	697.9	450.8	406.4	251.9	154.5	2,613.7	1,674.6

[1] Includes FHA insured multifamily properties, not shown separately.
[2] Derived figures. Total includes multifamily and commercial properties, not shown separately.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE B–74.—*Mortgage debt outstanding by holder, 1939–88*

[Billions of dollars]

End of year or quarter	Total	Major financial institutions				Other holders	
		Total	Savings institutions [1]	Commercial banks [2]	Life insurance companies	Federal and related agencies [3]	Individuals and others [4]
1939	35.5	18.6	8.6	4.3	5.7	5.0	11.9
1940	36.5	19.5	9.0	4.6	6.0	4.9	12.0
1941	37.6	20.7	9.4	4.9	6.4	4.7	12.2
1942	36.7	20.7	9.2	4.7	6.7	4.3	11.7
1943	35.3	20.2	9.0	4.5	6.7	3.6	11.5
1944	34.7	20.2	9.1	4.4	6.7	3.0	11.5
1945	35.5	21.0	9.6	4.8	6.6	2.4	12.1
1946	41.8	26.0	11.5	7.2	7.2	2.0	13.8
1947	48.9	31.8	13.8	9.4	8.7	1.8	15.3
1948	56.2	37.8	16.1	10.9	10.8	1.8	16.6
1949	62.7	42.9	18.3	11.6	12.9	2.3	17.5
1950	72.8	51.7	21.9	13.7	16.1	2.8	18.4
1951	82.3	59.5	25.5	14.7	19.3	3.5	19.3
1952	91.4	66.9	29.8	15.9	21.3	4.1	20.4
1953	101.3	75.1	34.9	16.9	23.3	4.6	21.7
1954	113.7	85.7	41.1	18.6	26.0	4.8	23.2
1955	129.9	99.3	48.9	21.0	29.4	5.3	25.3
1956	144.5	111.2	55.5	22.7	33.0	6.2	27.1
1957	156.5	119.7	61.2	23.3	35.2	7.7	29.1
1958	171.8	131.5	68.9	25.5	37.1	8.0	32.3
1959	190.8	145.5	78.1	28.1	39.2	10.2	35.1
1960	207.5	157.6	87.0	28.8	41.8	11.5	38.4
1961	228.0	172.6	98.0	30.4	44.2	12.2	43.1
1962	251.4	192.5	111.1	34.5	46.9	12.6	46.3
1963	278.5	217.1	127.2	39.4	50.5	11.8	49.5
1964	305.9	241.0	141.9	44.0	55.2	12.2	52.7
1965	333.3	264.6	154.9	49.7	60.0	13.5	55.2
1966	356.5	280.8	161.8	54.4	64.6	17.5	58.2
1967	381.2	298.8	172.3	59.0	67.5	20.9	61.4
1968	411.1	319.9	184.3	65.7	70.0	25.1	66.1
1969	441.6	339.1	196.3	70.7	72.0	31.1	71.4
1970	473.7	355.9	208.3	73.3	74.4	38.3	79.4
1971	524.2	394.2	236.2	82.5	75.5	46.4	83.6
1972	597.4	450.0	273.7	99.3	76.9	54.6	92.8
1973	672.6	505.4	305.0	119.1	81.4	64.8	102.4
1974	732.5	542.6	324.2	132.1	86.2	82.2	107.7
1975	791.9	581.2	355.8	136.2	89.2	101.1	109.6
1976	878.6	647.5	404.6	151.3	91.6	116.7	114.4
1977	1,010.3	745.2	469.4	179.0	96.8	140.5	124.6
1978	1,163.0	848.2	528.0	214.0	106.2	170.6	144.3
1979	1,328.4	938.2	574.6	245.2	118.4	216.0	174.3
1980	1,460.4	996.8	603.1	262.7	131.1	256.8	206.8
1981	1,566.7	1,040.5	618.5	284.2	137.7	289.4	236.8
1982	1,637.9	1,021.3	578.1	301.3	142.0	355.4	261.2
1983	1,825.4	1,108.2	626.7	330.5	151.0	433.4	283.7
1984	2,051.4	1,245.9	709.7	379.5	156.7	491.1	314.5
1985	2,289.8	1,361.5	760.5	429.2	171.8	582.0	346.4
1986	2,597.2	1,473.7	777.3	502.5	193.8	735.4	388.1
1987	2,943.1	1,660.5	856.9	591.2	212.4	863.1	419.6
1986: I	2,341.0	1,379.0	762.9	441.1	175.0	605.7	356.2
II	2,410.4	1,405.1	768.4	456.2	180.5	637.0	368.3
III	2,498.6	1,432.8	772.2	474.7	186.0	682.2	383.6
IV	2,597.2	1,473.7	777.3	502.5	193.8	735.4	388.1
1987: I	2,698.8	1,524.6	809.2	519.6	195.7	774.9	399.3
II	2,792.7	1,570.1	825.0	544.8	200.4	811.7	411.0
III	2,864.7	1,610.0	838.7	567.0	204.3	839.6	415.1
IV	2,943.1	1,660.5	856.9	591.2	212.4	863.1	419.6
1988: I	2,988.1	1,682.3	863.1	604.4	214.8	880.0	425.7
II	3,067.6	1,730.9	881.9	628.1	220.9	895.8	440.9
III	3,152.0	1,783.9	905.4	653.3	225.2	918.8	449.3

[1] Includes savings banks and savings and loan associations. Beginning 1987, data reported by Federal Savings and Loan Insurance Corporation-insured institutions include loans in process.

[2] Includes loans held by nondeposit trust companies, but not by bank trust departments.

[3] Includes Government National Mortgage Association (GNMA), Federal Housing Administration, Veterans Administration, Farmers Home Administration (FmHA), and in earlier years Reconstruction Finance Corporation, Homeowners Loan Corporation, Federal Farm Mortgage Corporation, and Public Housing Administration. Also includes U.S.-sponsored agencies such as Federal National Mortgage Association (FNMA), Federal Land Banks, Federal Home Loan Mortgage Corporation (FHLMC), and mortgage pass-through securities issued or guaranteed by GNMA, FHLMC, FNMA or FmHA. Other U.S. agencies (amounts small or current separate data not readily available) included with "individuals and others."

[4] Includes private mortgage pools.

Source: Board of Governors of the Federal Reserve System, based on data from various Government and private organizations.

TABLE B–75.—*Consumer credit outstanding, 1950–88*

[Amount outstanding (end of month); millions of dollars, seasonally adjusted]

Year and month	Total consumer credit	Installment credit [1]					Noninstallment credit [4]
		Total	Automobile	Revolving [2]	Mobile home [3]	Other	
December:							
1950	23,295	15,166	6,035	.....	.....	9,131	8,129
1951	24,624	15,859	5,981	.....	.....	9,878	8,765
1952	29,766	20,121	7,651	.....	.....	12,470	9,645
1953	33,769	23,870	9,702	.....	.....	14,168	9,899
1954	35,027	24,470	9,755	.....	.....	14,715	10,557
1955	41,885	29,809	13,485	.....	.....	16,324	12,076
1956	45,503	32,660	14,499	.....	.....	18,161	12,843
1957	48,132	34,914	15,493	.....	.....	19,421	13,218
1958	48,356	34,736	14,267	.....	.....	20,469	13,620
1959	55,878	40,421	16,641	.....	.....	23,780	15,457
1960	60,035	44,335	18,108	.....	.....	26,227	15,700
1961	62,340	45,438	17,656	.....	.....	27,782	16,902
1962	68,231	50,375	20,001	.....	.....	30,374	17,856
1963	76,606	57,056	22,891	.....	.....	34,165	19,550
1964	85,989	64,674	25,865	.....	.....	38,809	21,315
1965	95,948	72,814	29,378	.....	.....	43,436	23,134
1966	101,839	78,162	31,024	.....	.....	47,138	23,677
1967	106,716	81,783	31,136	.....	.....	50,647	24,933
1968	117,231	90,112	34,352	2,022	.....	53,738	27,119
1969	126,928	99,381	36,946	3,563	.....	58,872	27,547
1970	131,600	103,905	35,348	4,900	2,433	60,224	27,695
1971	147,058	116,434	40,522	8,252	7,171	60,489	30,624
1972	166,009	131,258	47,835	9,391	9,468	64,564	34,751
1973	190,601	152,910	53,740	11,318	13,505	74,347	37,691
1974	199,365	162,203	54,241	13,232	14,582	80,148	37,162
1975	204,963	167,043	56,989	14,507	15,388	80,159	37,920
1976	228,162	187,782	66,821	16,595	15,738	88,628	40,380
1977	263,808	221,475	80,948	36,689	16,362	87,476	42,333
1978	308,272	261,976	98,739	45,202	16,921	101,114	46,296
1979	347,507	296,483	112,475	53,357	18,207	112,444	51,024
1980	349,386	297,566	111,936	54,894	18,621	112,115	51,820
1981	366,597	310,682	118,956	60,838	20,302	110,586	55,915
1982	381,115	323,536	124,218	66,243	22,833	110,242	57,579
1983	430,382	367,868	143,799	78,667	23,704	121,698	62,514
1984	511,768	442,538	173,704	100,212	25,795	142,827	69,230
1985	582,409	517,755	209,636	122,013	26,834	159,272	74,654
1986	646,055	571,833	246,109	136,381	26,883	162,460	74,222
1987	685,545	613,022	267,180	159,307	25,957	160,578	72,523
1987: Jan	645,672	570,966	246,995	135,592	26,958	161,421	74,706
Feb	649,352	573,612	248,318	137,238	26,933	161,123	75,740
Mar	650,075	575,453	249,498	137,761	26,811	161,383	74,622
Apr	654,118	580,073	251,211	140,340	26,825	161,697	74,045
May	655,027	581,235	251,741	141,877	26,639	160,978	73,792
June	661,432	587,878	254,212	144,777	26,810	162,079	73,554
July	666,764	593,513	256,585	147,809	26,966	162,153	73,251
Aug	670,671	598,190	259,558	149,815	26,879	161,938	72,481
Sept	676,107	602,977	261,902	152,553	26,845	161,677	73,130
Oct	680,666	606,926	263,823	155,196	26,698	161,209	73,740
Nov	682,926	608,728	264,474	156,425	26,604	161,225	74,198
Dec	685,545	613,022	267,180	159,307	25,957	160,578	72,523
1988: Jan	689,705	619,258	269,883	162,065	25,926	161,384	70,447
Feb	695,104	624,294	273,133	163,462	25,857	161,842	70,810
Mar	699,556	629,485	276,762	165,643	25,732	161,348	70,071
Apr	703,686	633,336	278,567	167,356	25,764	161,649	70,350
May	706,795	638,318	279,418	169,154	25,703	162,043	70,477
June	712,882	644,372	282,254	172,809	25,852	163,456	68,510
July	715,375	647,993	283,359	174,927	25,882	163,825	67,382
Aug	720,947	653,317	285,560	177,568	25,915	164,274	67,630
Sept	720,839	653,319	284,782	178,675	25,746	164,116	67,520
Oct [p]	723,282	656,880	286,101	180,841	25,645	164,294	66,402

[1] Installment credit covers most short- and intermediate-term credit extended to individuals through regular business channels, usually to finance the purchase of consumer goods and services or to refinance debts incurred for such purposes, and scheduled to be repaid (or with the option of repayment) in two or more installments. Credit secured by real estate is generally excluded.

[2] Consists of credit cards at retailers, gasoline companies, and commercial banks, and check credit at commercial banks. Excludes 30-day charge credit held by travel and entertainment companies. Prior to 1968, included in "other," except gasoline companies, included in noninstallment credit prior to 1971. Beginning 1977, includes open-end credit at retailers, previously included in "other." Also beginning 1977, some retail credit was reclassified from commercial into consumer credit.

[3] Not reported separately prior to July 1970.

[4] Noninstallment credit is credit scheduled to be repaid in a lump sum, including single-payment loans, charge accounts, and service credit. Because of inconsistencies in the data and infrequent benchmarking, series is no longer published by the Federal Reserve Board on a regular basis. Data are shown here as a general indication of trends.

Source: Board of Governors of the Federal Reserve System.

TABLE B–76.—*Federal receipts, outlays, surplus or deficit, and debt, selected fiscal years, 1929–90*

[Billions of dollars; fiscal years]

Fiscal year or period	Total			On-budget			Off-budget			Gross Federal debt (end of period)		Addendum: Gross national product
	Receipts	Outlays	Surplus or deficit (–)	Receipts	Outlays	Surplus or deficit (–)	Receipts	Outlays	Surplus or deficit (–)	Total	Held by the public	
1929	3.9	3.1	0.7							[1] 16.9		
1933	2.0	4.6	–2.6							[1] 22.5		
1939	6.3	9.1	–2.8	5.8	9.2	–3.4	0.5	0.0	0.5	48.2	41.4	88.4
1940	6.5	9.5	–2.9	6.0	9.5	–3.5	.6	.0	.6	50.7	42.8	95.8
1941	8.7	13.7	–4.9	8.0	13.6	–5.6	.7	.0	.7	57.5	48.2	113.0
1942	14.6	35.1	–20.5	13.7	35.1	–21.3	.9	.1	.8	79.2	67.8	142.2
1943	24.0	78.6	–54.6	22.9	78.5	–55.6	1.1	.1	1.0	142.6	127.8	175.8
1944	43.7	91.3	–47.6	42.5	91.2	–48.7	1.3	.1	1.2	204.1	184.8	202.0
1945	45.2	92.7	–47.6	43.8	92.6	–48.7	1.3	.1	1.2	260.1	235.2	212.4
1946	39.3	55.2	–15.9	38.1	55.0	–17.0	1.2	.2	1.0	271.0	241.9	212.9
1947	38.5	34.5	4.0	37.1	34.2	2.9	1.5	.3	1.2	257.1	224.3	223.6
1948	41.6	29.8	11.8	39.9	29.4	10.5	1.6	.4	1.2	252.0	216.3	247.8
1949	39.4	38.8	.6	37.7	38.4	–.7	1.7	.4	1.3	252.6	214.3	263.9
1950	39.4	42.6	–3.1	37.3	42.0	–4.7	2.1	.5	1.6	256.9	219.0	266.8
1951	51.6	45.5	6.1	48.5	44.2	4.3	3.1	1.3	1.8	255.3	214.3	315.0
1952	66.2	67.7	–1.5	62.6	66.0	–3.4	3.6	1.7	1.9	259.1	214.8	342.4
1953	69.6	76.1	–6.5	65.5	73.8	–8.3	4.1	2.3	1.8	266.0	218.4	365.6
1954	69.7	70.9	–1.2	65.1	67.9	–2.8	4.6	2.9	1.7	270.8	224.5	369.5
1955	65.5	68.4	–3.0	60.4	64.5	–4.1	5.1	4.0	1.1	274.4	226.6	386.4
1956	74.6	70.6	3.9	68.2	65.7	2.5	6.4	5.0	1.5	272.7	222.2	418.1
1957	80.0	76.6	3.4	73.2	70.6	2.6	6.8	6.0	.8	272.3	219.3	440.5
1958	79.6	82.4	–2.8	71.6	74.9	–3.3	8.0	7.5	.5	279.7	226.3	450.2
1959	79.2	92.1	–12.8	71.0	83.1	–12.1	8.3	9.0	–.7	287.5	234.7	481.5
1960	92.5	92.2	.3	81.9	81.3	.5	10.6	10.9	–.2	290.5	236.8	506.7
1961	94.4	97.7	–3.3	82.3	86.0	–3.8	12.1	11.7	.4	292.6	238.4	518.2
1962	99.7	106.8	–7.1	87.4	93.3	–5.9	12.3	13.5	–1.3	302.9	248.0	557.7
1963	106.6	111.3	–4.8	92.4	96.4	–4.0	14.2	15.0	–.8	310.3	254.0	587.8
1964	112.6	118.5	–5.9	96.2	102.8	–6.5	16.4	15.7	.6	316.1	256.8	629.2
1965	116.8	118.2	–1.4	100.1	101.7	–1.6	16.7	16.5	.2	322.3	260.8	672.6
1966	130.8	134.5	–3.7	111.7	114.8	–3.1	19.1	19.7	–.6	328.5	263.7	739.0
1967	148.8	157.5	–8.6	124.4	137.0	–12.6	24.4	20.4	4.0	340.4	266.6	794.6
1968	153.0	178.1	–25.2	128.1	155.8	–27.7	24.9	22.3	2.6	368.7	289.5	849.4
1969	186.9	183.6	3.2	157.9	158.4	–.5	29.0	25.2	3.7	365.8	278.1	929.5
1970	192.8	195.6	–2.8	159.3	168.0	–8.7	33.5	27.6	5.9	380.9	283.2	990.2
1971	187.1	210.2	–23.0	151.3	177.3	–26.1	35.8	32.8	3.0	408.2	303.0	1,055.9
1972	207.3	230.7	–23.4	167.4	193.8	–26.4	39.9	36.9	3.1	435.9	322.4	1,153.1
1973	230.8	245.7	–14.9	184.7	200.1	–15.4	46.1	45.6	.5	466.3	340.9	1,281.4
1974	263.2	269.4	–6.1	209.3	217.3	–8.0	53.9	52.1	1.8	483.9	343.7	1,416.5
1975	279.1	332.3	–53.2	216.6	271.9	–55.3	62.5	60.4	2.0	541.9	394.7	1,522.5
1976	298.1	371.8	–73.7	231.7	302.2	–70.5	66.4	69.6	–3.2	629.0	477.4	1,698.2
Transition quarter	81.2	96.0	–14.7	63.2	76.6	–13.3	18.0	19.4	–1.4	643.6	495.5	448.7
1977	355.6	409.2	–53.6	278.7	328.5	–49.7	76.8	80.7	–3.9	706.4	549.1	1,933.0
1978	399.6	458.7	–59.2	314.2	369.1	–54.9	85.4	89.7	–4.3	776.6	607.1	2,171.8
1979	463.3	503.5	–40.2	365.3	403.5	–38.2	98.0	100.0	–2.0	828.9	639.8	2,447.8
1980	517.1	590.9	–73.8	403.9	476.6	–72.7	113.2	114.3	–1.1	908.5	709.3	2,670.6
1981	599.3	678.2	–78.9	469.1	543.0	–73.9	130.2	135.2	–5.0	994.3	784.8	2,986.4
1982	617.8	745.7	–127.9	474.3	594.3	–120.0	143.5	151.4	–7.9	1,136.8	919.2	3,139.1
1983	600.6	808.3	–207.8	453.2	661.2	–208.0	147.3	147.1	.2	1,371.2	1,131.0	3,321.9
1984	666.5	851.8	–185.3	500.4	686.0	–185.6	166.1	165.8	.3	1,564.1	1,300.0	3,687.7
1985	734.1	946.3	–212.3	547.9	769.5	–221.6	186.2	176.8	9.4	1,817.0	1,499.4	3,952.4
1986	769.1	990.3	–221.2	568.9	806.8	–237.9	200.2	183.5	16.7	2,120.1	1,736.2	4,186.8
1987	854.1	1,003.8	–149.7	640.7	810.0	–169.3	213.4	193.8	19.6	2,345.6	1,888.1	4,433.8
1988	909.0	1,064.0	–155.1	667.5	861.4	–193.9	241.5	202.7	38.8	2,600.8	2,050.2	4,780.0
1989 [2]	975.5	1,137.0	–161.5	708.7	926.2	–217.5	266.9	210.9	56.0	2,868.8	2,193.8	5,119.7
1990 [2]	1,059.3	1,151.8	–92.5	770.4	931.7	–161.3	288.9	220.1	68.8	3,107.2	2,285.0	5,475.7

[1] Not strictly comparable with later data.
[2] Estimates.

Note.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.
Refunds of receipts are excluded from receipts and outlays.
See "Budget of the United States Government, Fiscal Year 1990" for additional information.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of the Treasury, and Office of Management and Budget.

TABLE B–77.—*Federal receipts, outlays, and debt, fiscal years 1980–90*

[Millions of dollars; fiscal years]

Description	Actual					
	1980	1981	1982	1983	1984	1985
RECEIPTS AND OUTLAYS:						
Total receipts	517,112	599,272	617,766	600,562	666,457	734,057
Total outlays	590,920	678,209	745,706	808,327	851,781	946,316
Total surplus or deficit (–)	–73,808	–78,936	–127,940	–207,764	–185,324	–212,260
On-budget receipts	403,903	469,097	474,299	453,242	500,382	547,886
On-budget outlays	476,591	543,013	594,302	661,219	685,968	769,509
On-budget surplus or deficit (–)	–72,689	–73,916	–120,003	–207,977	–185,586	–221,623
Off-budget receipts	113,209	130,176	143,467	147,320	166,075	186,171
Off-budget outlays	114,329	135,196	151,404	147,108	165,813	176,807
Off-budget surplus or deficit (–)	–1,120	–5,020	–7,937	212	262	9,363
OUTSTANDING DEBT, END OF PERIOD:						
Gross Federal debt	908,503	994,298	1,136,798	1,371,164	1,564,110	1,816,974
Held by Government agencies	199,212	209,507	217,560	240,114	264,159	317,612
Held by the public	709,291	784,791	919,238	1,131,049	1,299,951	1,499,362
Federal Reserve System	120,846	124,466	134,497	155,527	155,122	169,806
Other	588,445	660,325	784,741	975,522	1,144,829	1,329,556
RECEIPTS: ON-BUDGET AND OFF-BUDGET	517,112	599,272	617,766	600,562	666,457	734,057
Individual income taxes	244,069	285,917	297,744	288,938	298,415	334,531
Corporation income taxes	64,600	61,137	49,207	37,022	56,893	61,331
Social insurance taxes and contributions	157,803	182,720	201,498	208,994	239,376	265,163
On-budget	44,594	52,545	58,031	61,674	73,301	78,992
Off-budget	113,209	130,176	143,467	147,320	166,075	186,171
Excise taxes	24,329	40,839	36,311	35,300	37,361	35,992
Estate and gift taxes	6,389	6,787	7,991	6,053	6,010	6,422
Customs duties	7,174	8,083	8,854	8,655	11,370	12,079
Miscellaneous receipts:						
Deposits of earnings by Federal Reserve System	11,767	12,834	15,186	14,492	15,684	17,059
All other	981	956	975	1,108	1,347	1,480
OUTLAYS: ON-BUDGET AND OFF-BUDGET	590,920	678,209	745,706	808,327	851,781	946,316
National defense	133,995	157,513	185,309	209,903	227,413	252,748
International affairs	12,714	13,104	12,300	11,848	15,876	16,176
General science, space, and technology	5,832	6,469	7,200	7,935	8,317	8,627
Energy	10,156	15,166	13,527	9,353	7,086	5,685
Natural resources and environment	13,858	13,568	12,998	12,672	12,593	13,357
Agriculture	8,839	11,323	15,944	22,901	13,613	25,565
Commerce and housing credit	9,390	8,206	6,256	6,681	6,917	4,229
Transportation	21,329	23,379	20,625	21,334	23,669	25,838
Community and regional development	11,252	10,568	8,347	7,560	7,673	7,680
Education, training, employment, and social services	31,843	33,709	27,029	26,606	27,579	29,342
Health	23,169	26,866	27,445	28,641	30,417	33,542
Medicare	32,090	39,149	46,567	52,588	57,540	65,822
Income security	86,540	99,723	107,717	122,598	112,668	128,200
Social security	118,547	139,584	155,964	170,724	178,223	188,623
On-budget	675	670	844	19,993	7,056	5,189
Off-budget	117,872	138,914	155,120	150,731	171,167	183,434
Veterans benefits and services	21,185	22,991	23,958	24,846	25,614	26,292
Administration of justice	4,582	4,762	4,703	5,099	5,660	6,277
General government	13,030	11,436	10,922	11,241	11,821	11,582
Central Federal credit activities						
Net interest	52,512	68,734	84,995	89,774	111,058	129,430
On-budget	54,851	71,022	87,065	91,619	114,368	133,548
Off-budget	–2,339	–2,288	–2,071	–1,845	–3,310	–4,118
Allowances						
Undistributed offsetting receipts	–19,942	–28,041	–26,099	–33,976	–31,957	–32,698
On-budget	–18,738	–26,611	–24,453	–32,198	–29,913	–30,189
Off-budget	–1,204	–1,430	–1,646	–1,778	–2,044	–2,509

See next page for continuation of table.

TABLE B–77.—*Federal receipts, outlays, and debt, fiscal years 1980–90*—Continued

[Millions of dollars; fiscal years]

Description	Actual			Estimates	
	1986	1987	1988	1989	1990
RECEIPTS AND OUTLAYS:					
Total receipts	769,091	854,143	908,954	975,534	1,059,339
Total outlays	990,258	1,003,830	1,064,044	1,137,030	1,151,848
Total surplus or deficit (–)	–221,167	–149,687	–155,090	–161,496	–92,509
On-budget receipts	568,862	640,741	667,463	708,662	770,446
On-budget outlays	806,760	809,998	861,352	926,169	931,730
On-budget surplus or deficit (–)	–237,898	–169,257	–193,890	–217,507	–161,284
Off-budget receipts	200,228	213,402	241,491	266,872	288,893
Off-budget outlays	183,498	193,832	202,691	210,861	220,118
Off-budget surplus or deficit (–)	16,731	19,570	38,800	56,011	68,775
OUTSTANDING DEBT, END OF PERIOD:					
Gross Federal debt	2,120,082	2,345,578	2,600,753	2,868,792	3,107,207
Held by Government agencies	383,919	457,444	550,557	674,974	822,194
Held by the public	1,736,163	1,888,134	2,050,196	2,193,818	2,285,014
Federal Reserve System	190,855	212,040	229,218	.....	.....
Other	1,545,308	1,676,094	1,820,977	.....	.....
RECEIPTS: ON-BUDGET AND OFF-BUDGET	769,091	854,143	908,954	975,534	1,059,339
Individual income taxes	348,959	392,557	401,181	425,193	466,711
Corporation income taxes	63,143	83,926	94,508	106,997	117,413
Social insurance taxes and contributions	283,901	303,318	334,335	363,871	391,509
On-budget	83,673	89,916	92,845	96,999	102,616
Off-budget	200,228	213,402	241,491	266,872	288,893
Excise taxes	32,919	32,457	35,227	33,977	35,270
Estate and gift taxes	6,958	7,493	7,594	7,850	8,084
Customs duties	13,327	15,085	16,198	16,281	17,588
Miscellaneous receipts:					
Deposits of earnings by Federal Reserve System	18,374	16,817	17,163	17,950	18,619
All other	1,510	2,490	2,747	3,415	3,746
OUTLAYS: ON-BUDGET AND OFF-BUDGET	990,258	1,003,830	1,064,044	1,137,030	1,151,848
National defense	273,375	281,999	290,361	298,255	302,991
International affairs	14,152	11,649	10,471	10,748	17,322
General science, space, and technology	8,976	9,216	10,841	12,593	14,863
Energy	4,735	4,115	2,297	4,137	2,277
Natural resources and environment	13,639	13,363	14,606	16,487	14,434
Agriculture	31,449	26,606	17,210	20,903	15,892
Commerce and housing credit	4,890	6,182	18,808	20,040	8,262
Transportation	28,117	26,222	27,272	28,027	28,287
Community and regional development	7,233	5,051	5,294	6,303	6,365
Education, training, employment, and social services	30,585	29,724	31,938	36,351	39,531
Health	35,936	39,968	44,490	49,761	52,177
Medicare	70,164	75,120	78,878	86,734	94,918
Income security	119,796	123,250	129,332	136,947	136,788
Social security	198,757	207,353	219,341	232,334	246,724
On-budget	8,072	4,930	4,852	5,414	6,167
Off-budget	190,684	202,422	214,489	226,920	240,557
Veterans benefits and services	26,356	26,782	29,428	29,218	29,872
Administration of justice	6,603	7,548	9,223	9,428	10,598
General government	12,533	7,569	9,474	9,990	9,993
Central Federal credit activities	.....	.....	.....	.....	–7,156
Net interest	135,969	138,570	151,748	165,704	170,109
On-budget	140,298	143,860	159,164	176,914	184,997
Off-budget	–4,329	–5,290	–7,416	–11,210	–14,888
Allowances	.....	.....	.....	.....	–360
Undistributed offsetting receipts	–33,007	–36,455	–36,967	–36,931	–42,042
On-budget	–30,150	–33,155	–32,585	–32,082	–36,491
Off-budget	–2,857	–3,300	–4,382	–4,849	–5,551

Note.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

Refunds of receipts are excluded from receipts and outlays.

See "Budget of the United States Government, Fiscal Year 1989" for additional information.

Sources: Department of the Treasury and Office of Management and Budget.

TABLE B–78.—*Relation of Federal Government receipts and expenditures in the national income and product accounts to the budget, fiscal years 1988–90*

[Billions of dollars; fiscal years]

Receipts and expenditures	1988	Estimate	
		1989	1990
RECEIPTS			
Total on-budget and off-budget receipts	909.0	975.5	1,059.3
Government contributions for employee retirement (grossing)	38.8	40.5	42.4
Other netting and grossing	16.4	19.4	26.7
Timing adjustments	2.3	−4.4	6.9
Geographic exclusions	−1.7	−1.7	−1.9
Federal sector, national income and product accounts, receipts	964.8	1,029.3	1,133.4
EXPENDITURES			
Total on-budget and off-budget outlays	1,064.0	1,137.0	1,151.8
Lending and financial transactions	−15.2	−18.3	−4.8
Government contributions for employee retirement (grossing)	38.8	40.5	42.4
Other netting and grossing	16.4	19.4	26.7
Defense timing adjustment	7.0	−.3	−1.1
Bonuses on Outer Continental Shelf land leases	1.3	.8	2.0
Geographic exclusions	−5.7	−6.0	−6.1
Other	−.3	1.1	2.1
Federal sector, national income and product accounts, expenditures	1,106.3	1,174.2	1,213.0

Note.—See Note, Table B–76.
See Special Analysis B, "Special Analyses, Budget of the United States Government, Fiscal Year 1990" for description of these categories.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of the Treasury, and Office of Management and Budget.

TABLE B–79.—*Federal and State and local government receipts and expenditures, national income and product accounts, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Total government			Federal Government			State and local government		
	Receipts	Expenditures	Surplus or deficit (−), national income and product accounts	Receipts	Expenditures	Surplus or deficit (−), national income and product accounts	Receipts	Expenditures	Surplus or deficit (−), national income and product accounts
1929	11.3	10.3	1.0	3.8	2.7	1.2	7.6	7.8	−0.2
1933	9.4	10.7	−1.4	2.7	4.0	−1.3	7.2	7.2	−.1
1939	15.4	17.6	−2.2	6.8	9.0	−2.2	9.6	9.6	.0
1940	17.8	18.5	−.7	8.7	10.0	−1.3	10.0	9.3	.6
1941	25.0	28.8	−3.8	15.5	20.5	−5.1	10.4	9.1	1.3
1942	32.7	64.1	−31.4	23.0	56.1	−33.1	10.6	8.8	1.8
1943	49.2	93.4	−44.2	39.3	85.9	−46.6	10.9	8.4	2.4
1944	51.2	103.1	−51.8	41.1	95.6	−54.5	11.1	8.5	2.7
1945	53.4	92.9	−39.5	42.7	84.7	−42.1	11.6	9.0	2.6
1946	52.6	47.2	5.4	40.7	37.2	3.5	13.0	11.1	1.9
1947	57.8	43.4	14.4	44.1	30.8	13.4	15.4	14.4	1.0
1948	59.6	51.1	8.4	43.9	35.5	8.3	17.7	17.6	.1
1949	56.6	60.0	−3.4	39.4	42.0	−2.6	19.5	20.2	−.7
1950	69.4	61.4	8.0	50.4	41.2	9.2	21.3	22.5	−1.2
1951	85.6	79.5	6.1	64.6	58.1	6.5	23.4	23.9	−.4
1952	90.5	94.3	−3.8	67.7	71.4	−3.7	25.4	25.5	−.0
1953	95.0	102.0	−7.0	70.4	77.6	−7.1	27.4	27.3	.1
1954	90.4	97.5	−7.1	64.2	70.3	−6.0	29.0	30.2	−1.1
1955	101.6	98.5	3.1	73.1	68.6	4.4	31.7	32.9	−1.3
1956	110.2	105.0	5.2	78.5	72.5	6.1	35.0	35.9	−.9
1957	116.7	115.8	.9	82.5	80.2	2.3	38.5	39.8	−1.4
1958	115.7	128.3	−12.6	79.3	89.6	−10.3	42.0	44.4	−2.4
1959	130.3	131.9	−1.6	90.6	91.7	−1.1	46.6	47.0	−.4
1960	140.4	137.3	3.1	96.9	93.9	3.0	50.0	49.9	.1
1961	145.9	150.1	−4.3	99.0	102.9	−3.9	54.1	54.5	−.4
1962	157.9	161.6	−3.8	107.2	111.4	−4.2	58.6	58.2	.5
1963	169.8	169.1	.7	115.6	115.3	.3	63.4	62.9	.5
1964	175.6	177.8	−2.3	116.2	119.5	−3.3	69.8	68.8	1.0
1965	190.2	189.6	.5	125.8	125.3	.5	75.5	75.5	−.0
1966	214.4	215.6	−1.3	143.5	145.3	−1.8	85.2	84.7	.5
1967	230.8	245.0	−14.2	152.6	165.8	−13.2	94.1	95.2	−1.1
1968	266.2	272.2	−6.0	176.9	182.9	−6.0	107.9	107.8	.1
1969	300.1	290.2	9.9	199.7	191.3	8.4	120.8	119.3	1.5
1970	306.8	317.4	−10.6	195.4	207.8	−12.4	135.8	134.0	1.8
1971	327.3	346.8	−19.5	202.7	224.8	−22.0	153.6	151.0	2.6
1972	374.0	377.3	−3.4	232.2	249.0	−16.8	179.3	165.8	13.5
1973	419.6	411.7	7.9	263.7	269.3	−5.6	196.4	182.9	13.5
1974	463.1	467.4	−4.3	292.9	305.5	−11.6	213.1	205.9	7.2
1975	480.0	544.9	−64.9	294.9	364.2	−69.4	239.6	235.2	4.5
1976	549.1	587.5	−38.4	340.1	393.7	−53.5	270.1	254.9	15.2
1977	616.6	635.7	−19.1	384.1	430.1	−46.0	300.1	273.2	26.9
1978	694.4	694.8	−.4	441.4	470.7	−29.3	330.3	301.3	28.9
1979	779.8	768.3	11.5	505.0	521.1	−16.1	355.3	327.7	27.6
1980	855.1	889.6	−34.5	553.8	615.1	−61.3	390.0	363.2	26.8
1981	977.2	1,006.9	−29.7	639.5	703.3	−63.8	425.6	391.4	34.1
1982	1,000.8	1,111.6	−110.8	636.3	781.2	−145.9	449.4	414.3	35.1
1983	1,061.3	1,189.9	−128.6	659.9	835.9	−176.0	487.7	440.2	47.5
1984	1,172.9	1,277.9	−105.0	726.0	895.6	−169.6	540.5	475.9	64.6
1985	1,270.8	1,402.6	−131.8	788.7	985.6	−196.9	581.8	516.7	65.1
1986	1,344.6	1,489.0	−144.4	828.3	1,033.9	−205.6	623.0	561.9	61.2
1987	1,469.5	1,574.4	−104.9	916.5	1,074.2	−157.8	655.7	602.8	52.9
1982: IV	1,008.4	1,175.3	−166.8	633.1	835.7	−202.6	459.8	424.1	35.8
1983: IV	1,095.3	1,208.2	−112.9	675.5	844.7	−169.2	505.8	449.5	56.4
1984: IV	1,200.8	1,322.9	−122.1	742.7	930.2	−187.5	554.5	489.1	65.4
1985: IV	1,299.9	1,445.8	−145.9	805.3	1,017.5	−212.2	598.0	531.8	66.3
1986: I	1,314.2	1,445.6	−131.4	806.7	1,005.3	−198.6	613.1	545.9	67.2
II	1,322.8	1,497.2	−174.3	816.3	1,050.7	−234.4	616.6	556.5	60.1
III	1,353.9	1,497.4	−143.5	833.6	1,039.7	−206.1	629.6	566.9	62.7
IV	1,387.3	1,515.8	−128.5	856.8	1,040.1	−183.3	632.9	578.1	54.8
1987: I	1,407.0	1,547.6	−140.6	871.3	1,059.6	−188.3	637.5	589.9	47.7
II	1,473.8	1,556.4	−82.6	920.0	1,064.0	−144.0	659.3	597.9	61.4
III	1,487.3	1,572.8	−85.5	930.1	1,068.4	−138.3	659.1	606.2	52.9
IV	1,510.0	1,620.7	−110.7	944.4	1,104.9	−160.4	666.9	617.2	49.7
1988: I	1,525.4	1,624.6	−99.2	951.0	1,106.1	−155.1	685.5	629.7	55.8
II	1,570.9	1,648.0	−77.1	989.0	1,116.3	−133.3	698.4	642.1	56.2
III	1,572.0	1,639.5	−67.5	975.5	1,099.0	−123.5	708.0	652.0	56.0

Note.—Federal grants-in-aid to State and local governments are reflected in Federal expenditures and State and local receipts. Total government receipts and expenditures have been adjusted to eliminate this duplication.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–80.—*Federal and State and local government receipts and expenditures, national income and product accounts, by major type, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts					Expenditures								Surplus or deficit (−), national income and product accounts	Addenda: Grants-in-aid to State and local governments
									Net interest paid						
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Total [1]	Purchases of goods and services	Transfer payments	Total	Interest paid	Less: Interest received by government	Less: Dividends received by government [2]	Subsidies less current surpluses of government enterprises		
1929	11.3	2.6	1.4	7.1	0.3	10.3	8.9	1.0	0.7				−0.2	1.0	0.1
1933	9.4	1.4	.5	7.1	.3	10.7	8.3	1.5	1.0				.0	−1.4	.5
1939	15.4	2.4	1.4	9.4	2.2	17.6	13.6	2.6	1.1				.4	−2.2	1.0
1940	17.8	2.6	2.8	10.1	2.4	18.5	14.2	2.7	1.2				.4	−.7	.9
1941	25.0	3.3	7.6	11.3	2.8	28.8	25.0	2.6	1.2				.1	−3.8	.8
1942	32.7	5.9	11.4	11.8	3.5	64.1	59.9	2.7	1.4				.1	−31.4	.9
1943	49.2	17.8	14.1	12.8	4.6	93.4	88.9	2.4	1.9				.1	−44.2	.9
1944	51.2	18.9	12.9	14.2	5.2	103.1	97.1	3.0	2.4				.6	−51.8	.9
1945	53.4	20.8	10.7	15.5	6.3	92.9	83.0	6.0	3.2				.7	−39.5	.9
1946	52.6	18.7	9.1	17.1	7.7	47.2	29.1	13.1	4.1				.9	5.4	1.1
1947	57.8	21.4	11.3	18.4	6.7	43.4	26.4	13.1	4.2				−.2	14.4	1.7
1948	59.6	21.0	12.4	20.1	6.0	51.1	32.6	14.5	4.2				−.1	8.4	2.0
1949	56.6	18.5	10.2	21.3	6.6	60.0	39.0	16.9	4.3				−.3	−3.4	2.2
1950	69.4	20.6	17.9	23.4	7.4	61.4	38.8	18.0	4.4				.1	8.0	2.3
1951	85.6	28.9	22.6	25.3	8.8	79.5	60.4	14.8	4.5				−.1	6.1	2.5
1952	90.5	34.0	19.4	27.7	9.3	94.3	75.8	14.3	4.5				−.3	−3.8	2.6
1953	95.0	35.5	20.3	29.7	9.6	102.0	82.8	15.1	4.6				−.5	−7.0	2.8
1954	90.4	32.5	17.6	29.6	10.6	97.5	76.0	17.1	4.7				−.3	−7.1	2.9
1955	101.6	35.4	22.0	32.2	12.0	98.5	75.3	18.5	4.7				.0	3.1	3.1
1956	110.2	39.7	22.0	35.0	13.5	105.0	79.7	19.4	5.2				.7	5.2	3.3
1957	116.7	42.4	21.4	37.4	15.5	115.8	87.3	22.2	5.6				.7	.9	4.2
1958	115.7	42.2	19.0	38.6	15.9	126.3	95.4	26.5	5.4				1.1	−12.6	5.6
1959	130.3	46.1	23.6	41.7	18.8	131.9	97.9	27.6	6.3				.1	−1.6	6.8
1960	140.4	50.5	22.7	45.3	21.9	137.3	100.6	29.4	6.9	10.1	3.3		.4	3.1	6.5
1961	145.9	52.2	22.8	48.0	22.9	150.1	108.4	33.7	6.4	9.9	3.5		1.7	−4.3	7.2
1962	157.9	57.0	24.0	51.5	25.4	161.6	118.2	34.8	6.9	10.8	3.9		1.8	−3.8	8.0
1963	169.8	60.5	26.2	54.6	28.5	169.1	123.8	36.8	7.4	11.6	4.2		1.1	.7	9.1
1964	175.6	58.8	28.0	58.7	30.1	177.8	130.0	38.3	7.9	12.5	4.6		1.7	−2.3	10.4
1965	190.2	65.2	30.9	62.5	31.6	189.6	138.6	41.3	8.1	13.2	5.1		1.6	.5	11.1
1966	214.4	74.9	33.7	65.2	40.6	215.6	158.6	46.0	8.5	14.5	6.0		2.5	−1.3	14.4
1967	230.8	82.4	32.7	70.1	45.5	245.0	179.7	54.7	8.9	15.7	6.8		1.6	−14.2	15.9
1968	266.2	97.7	39.4	78.7	50.4	272.2	197.7	62.9	10.3	17.1	7.7	0.1	1.4	−6.0	18.6
1969	300.1	116.3	39.7	86.3	57.9	290.2	207.3	69.7	11.5	19.8	8.3	.2	1.9	9.9	20.3
1970	306.8	116.2	34.4	94.0	62.2	317.4	218.2	84.1	12.4	22.3	9.9	.2	2.9	−10.6	24.4
1971	327.3	117.3	37.7	103.4	68.9	346.8	232.4	99.8	12.5	23.1	10.6	.3	2.6	−19.5	29.0
1972	374.0	142.0	41.9	111.1	79.0	377.3	250.0	111.3	12.9	24.8	11.9	.3	3.7	−3.4	37.5
1973	419.6	152.0	49.3	120.8	97.6	411.7	266.5	127.0	15.2	29.6	14.3	.5	3.5	7.9	40.6
1974	463.1	171.8	51.8	129.0	110.5	467.4	299.1	150.9	16.5	33.6	17.1	.9	1.2	−4.3	43.9
1975	480.0	170.6	50.9	140.0	118.5	544.9	335.0	189.6	18.8	37.7	18.9	.9	2.4	−64.9	54.6
1976	549.1	198.7	64.2	151.7	134.5	587.5	356.9	207.2	23.2	43.6	20.4	.9	1.0	−38.4	61.1
1977	616.6	228.1	73.0	165.7	149.8	635.7	387.3	221.6	25.1	47.9	22.8	1.3	3.0	−19.1	67.5
1978	694.4	261.1	83.5	178.1	171.7	694.8	425.2	239.5	28.2	56.5	28.3	1.7	3.9	−.4	77.3
1979	779.8	304.7	88.0	189.4	197.8	768.3	467.8	268.0	30.8	68.2	37.5	2.0	3.5	11.5	80.5
1980	855.1	340.5	84.8	213.3	216.5	889.6	530.3	319.2	36.3	83.2	46.9	1.9	5.7	−34.5	88.7
1981	977.2	393.3	81.1	251.5	251.2	1,006.9	588.1	362.2	52.2	109.1	56.9	2.3	6.7	−29.7	87.9
1982	1,000.8	409.3	63.1	258.8	269.6	1,111.6	641.7	404.0	60.1	128.3	68.1	2.9	8.7	−110.8	83.9
1983	1,061.3	410.5	77.2	282.6	291.0	1,189.9	675.0	435.1	68.1	145.1	77.1	2.8	14.1	−128.6	86.2
1984	1,172.9	440.2	93.9	313.9	324.9	1,277.9	735.9	448.7	87.2	173.5	86.3	3.5	9.9	−105.0	93.6
1985	1,270.8	486.6	96.4	333.6	354.1	1,402.6	820.8	481.2	97.7	194.2	96.5	4.5	7.2	−131.8	99.7
1986	1,344.6	511.4	106.6	348.4	378.1	1,489.0	871.2	510.0	100.7	205.8	105.2	5.5	12.6	−144.4	106.8
1987	1,469.5	570.3	133.8	366.3	399.1	1,574.4	924.7	532.8	105.4	215.8	110.4	6.9	18.3	−104.9	102.7
1982: IV	1,008.4	411.1	59.8	264.5	273.0	1,175.3	671.8	429.7	61.4	133.2	71.8	3.1	15.4	−166.8	84.5
1983: IV	1,095.3	413.9	88.1	294.1	299.2	1,208.2	676.1	441.1	74.2	154.7	80.5	2.9	19.6	−112.9	86.0
1984: IV	1,200.8	459.7	87.0	322.7	331.5	1,322.9	764.5	458.5	96.1	185.3	89.2	4.0	8.4	−122.1	96.3
1985: IV	1,299.9	499.6	99.8	338.3	362.1	1,445.8	856.7	490.0	98.8	199.5	100.7	4.9	5.3	−145.9	103.5
1986: I	1,314.2	495.6	99.2	347.2	372.3	1,445.6	847.8	496.7	100.9	204.0	103.1	5.1	5.1	−131.4	105.6
II	1,322.8	501.0	104.9	341.6	375.3	1,497.2	868.8	507.6	101.5	205.6	104.1	5.2	24.5	−174.3	110.0
III	1,353.9	514.2	107.9	352.7	379.1	1,497.4	881.8	516.7	99.3	206.8	107.4	5.5	5.0	−143.5	109.2
IV	1,387.3	534.9	114.3	352.3	385.9	1,515.8	886.5	518.8	100.9	207.0	106.1	6.1	15.8	−128.5	102.3
1987: I	1,407.0	532.2	126.3	356.9	391.5	1,547.6	903.8	522.2	102.5	210.1	107.5	6.4	25.5	−140.6	101.9
II	1,473.8	582.0	132.6	363.8	395.4	1,556.4	915.7	531.1	102.5	212.1	109.5	6.7	13.8	−82.6	105.5
III	1,487.3	576.2	140.0	370.3	400.9	1,572.8	932.2	533.9	105.7	217.1	111.4	7.2	8.3	−85.5	101.9
IV	1,510.0	591.0	136.2	374.2	408.6	1,620.7	947.3	544.2	110.8	223.9	113.1	7.5	25.6	−110.7	101.4
1988: I	1,525.4	575.8	136.9	379.4	433.3	1,624.6	945.2	558.2	110.4	229.4	119.0	7.8	18.6	−99.2	111.1
II	1,570.9	601.0	143.2	385.8	440.9	1,648.0	961.6	563.5	111.7	230.1	118.4	8.1	19.2	−77.1	110.4
III	1,572.0	586.5	144.8	392.3	448.4	1,639.5	955.3	570.0	113.7	234.1	120.4	8.4	8.8	−67.5	111.5

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.
[2] Prior to 1968, dividends received is included in interest received.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–81.—*Federal Government receipts and expenditures, national income and product accounts, 1967–90*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts					Expenditures								Surplus or deficit (–), national income and product accounts
							Purchases of goods and services		Transfer payments					
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Total[1]	Total	National defense	To persons	To foreigners	Grants-in-aid to State and local governments	Net interest paid	Subsidies less current surplus of government enterprises	
Fiscal: [2]														
1967	148.1	64.4	30.3	15.7	37.7	156.7	87.6	68.8	37.2	2.3	14.8	9.6	5.2	–8.6
1968	162.1	71.4	33.1	17.0	40.6	174.4	97.0	77.0	42.9	2.2	17.8	10.4	4.1	–12.3
1969	192.5	90.2	36.8	18.6	46.9	187.3	100.3	78.5	48.9	2.3	19.2	12.0	4.7	5.2
1970	198.0	94.0	32.9	19.1	52.0	198.7	99.8	78.2	55.3	2.2	22.6	13.5	5.5	–.7
1971	196.2	87.9	31.9	20.0	56.5	216.8	98.3	75.7	68.1	2.5	26.8	14.1	7.0	–20.5
1972	217.9	100.5	34.2	19.8	63.4	237.1	104.4	76.2	76.5	3.0	32.6	14.0	6.5	–19.2
1973	245.3	107.5	40.9	20.6	76.3	260.4	105.3	77.1	87.6	2.8	40.4	15.7	9.1	–15.2
1974	277.2	122.7	43.4	21.3	89.8	283.9	109.3	78.8	102.3	3.2	41.6	19.6	7.7	–6.8
1975	290.5	127.5	42.1	22.1	98.8	335.7	123.9	86.3	131.9	3.7	48.4	21.7	5.9	–45.3
1976	322.6	137.1	52.1	24.2	109.1	378.9	132.2	91.5	154.3	3.7	57.5	25.1	6.2	–56.3
1977	374.7	165.9	59.0	24.5	125.4	419.6	146.8	99.2	167.1	4.1	66.3	28.5	6.9	–44.8
1978	424.3	186.5	67.8	27.1	142.9	459.9	158.6	106.3	179.3	4.4	74.7	33.5	9.7	–35.6
1979	491.2	222.9	75.7	29.0	163.6	506.4	173.1	117.7	198.5	5.1	79.1	40.7	9.9	–15.2
1980	538.6	250.7	70.2	35.3	182.3	589.0	199.9	137.2	235.4	5.8	86.7	50.8	10.4	–50.4
1981	623.8	289.6	69.4	53.4	211.4	682.4	231.8	160.7	274.6	6.7	90.1	66.7	12.5	–58.5
1982	643.3	310.0	52.1	50.0	231.1	755.9	264.4	187.3	305.6	7.2	83.4	82.2	13.0	–112.6
1983	645.7	292.5	55.7	50.2	247.3	832.4	287.4	210.4	339.8	7.7	85.7	90.6	20.9	–186.7
1984	711.9	302.5	75.3	54.9	279.2	873.0	297.2	228.5	342.3	9.9	90.7	109.7	23.3	–161.0
1985	776.8	340.4	74.6	55.9	305.8	962.3	341.5	252.7	360.6	13.4	97.8	128.3	20.7	–185.5
1986	815.0	357.0	80.7	51.2	326.0	1,027.8	368.4	275.3	380.4	14.3	107.4	134.4	22.9	–212.8
1987	901.7	401.6	101.7	53.2	345.2	1,058.9	375.4	290.1	399.4	11.7	103.1	139.7	29.6	–157.2
1988	964.8	413.1	109.9	57.0	384.8	1,106.3	378.3	296.9	421.3	12.9	108.5	150.4	34.8	–141.5
1989 [3]	1,029.3	436.8	118.5	57.5	416.5	1,174.2	398.4	298.3	450.1	13.3	116.9	165.9	29.6	–144.9
1990 [3]	1,133.4	470.5	140.7	65.7	456.5	1,213.0	413.0	304.8	474.5	13.5	117.5	171.1	23.4	–79.6
Calendar:														
1967	152.6	67.5	30.0	16.2	38.9	165.8	92.7	73.4	40.2	2.4	15.9	9.8	4.7	–13.2
1968	176.9	79.7	36.1	17.9	43.2	182.9	100.1	79.1	46.2	2.3	18.6	11.3	4.5	–6.0
1969	199.7	95.1	36.1	18.9	49.6	191.3	100.0	78.9	50.8	2.2	20.3	12.7	5.2	8.4
1970	195.4	92.6	30.6	19.2	52.9	207.8	98.8	76.8	61.6	2.3	24.4	14.1	6.5	–12.4
1971	202.7	90.3	33.5	20.3	58.7	224.8	99.8	74.1	73.0	2.7	29.0	13.8	6.3	–22.0
1972	232.2	108.2	36.6	19.9	67.5	249.0	105.8	77.4	80.9	2.9	37.5	14.4	7.9	–16.8
1973	263.7	114.7	43.3	21.1	84.6	269.3	106.4	77.5	93.7	2.9	40.6	18.0	7.8	–5.6
1974	293.9	131.3	45.1	21.6	95.9	305.5	116.2	82.6	115.0	3.6	43.9	20.7	5.6	–11.6
1975	294.9	125.9	43.6	23.8	101.6	364.2	129.2	89.6	146.8	4.0	54.6	23.0	6.9	–69.4
1976	340.1	147.3	54.6	23.3	115.0	393.7	136.3	93.4	159.3	4.4	61.1	26.8	5.8	–53.5
1977	384.1	169.8	61.6	25.0	127.7	430.1	151.1	100.9	170.1	4.2	67.5	29.1	8.2	–46.0
1978	441.4	194.9	71.4	28.0	147.0	470.7	161.8	108.9	182.4	4.7	77.3	35.2	9.5	–29.3
1979	505.0	231.0	74.4	29.3	170.3	521.1	178.0	121.9	205.6	5.2	80.5	42.5	9.2	–16.1
1980	553.8	257.9	70.3	38.8	186.8	615.1	208.1	142.7	247.0	6.5	88.7	53.3	11.5	–61.3
1981	639.5	298.9	65.7	56.2	218.8	703.3	242.2	167.5	282.1	6.5	87.9	72.4	12.3	–63.8
1982	635.3	304.5	49.0	48.1	233.7	781.2	272.7	193.8	316.3	7.8	83.9	84.6	16.0	–145.9
1983	659.9	294.5	61.3	51.6	252.5	835.9	283.5	214.4	340.1	8.5	86.2	94.3	22.9	–176.0
1984	726.0	310.3	75.2	55.7	284.7	895.6	310.5	234.3	344.2	10.7	93.6	115.6	21.2	–169.6
1985	788.7	346.4	76.3	55.1	310.9	985.6	355.2	259.1	366.7	13.4	99.7	130.1	20.3	–196.9
1986	828.3	361.5	83.9	50.8	332.2	1,033.9	366.2	277.5	385.9	13.9	106.8	135.4	25.7	–205.6
1987	916.5	405.6	105.8	54.0	351.0	1,074.2	382.0	295.3	402.0	12.2	102.7	143.0	32.4	–157.8
1982: IV	633.1	303.0	46.4	47.6	236.1	835.7	293.2	205.4	337.9	9.5	84.5	87.2	23.4	–202.6
1983: IV	675.5	291.9	70.2	53.6	259.8	844.7	276.1	221.5	340.3	12.2	86.0	101.0	29.1	–169.2
1984: IV	742.7	326.0	69.7	56.2	290.7	930.2	326.0	244.1	346.6	15.5	96.3	125.3	21.0	–187.5
1985: IV	805.3	355.3	78.8	53.5	317.7	1,017.5	376.6	268.6	370.3	15.5	103.5	132.7	19.0	–212.2
1986: I	806.7	350.0	78.7	50.6	327.5	1,005.3	356.6	266.8	379.6	10.4	105.6	135.0	18.0	–198.6
II	816.3	354.0	82.6	49.6	330.1	1,050.7	368.7	277.2	383.5	15.1	110.0	135.9	37.5	–234.4
III	833.6	363.5	84.7	52.0	333.4	1,039.7	372.7	288.0	389.6	15.8	109.2	134.3	18.1	–206.1
IV	856.8	378.3	89.7	51.0	337.8	1,040.1	366.7	278.1	390.9	14.5	102.3	136.5	29.1	–183.3
1987: I	871.3	373.8	100.1	53.0	344.5	1,059.6	372.7	287.3	396.0	10.6	101.9	139.0	39.4	–188.3
II	920.0	413.1	105.0	54.3	347.7	1,064.0	377.5	294.8	402.2	11.2	105.5	139.8	27.8	–144.0
III	930.1	413.3	110.5	53.9	352.4	1,068.4	386.3	299.8	403.5	10.7	101.9	143.8	22.6	–138.3
IV	944.4	422.3	107.7	55.0	359.4	1,104.9	391.4	299.2	406.1	16.4	101.4	149.5	39.7	–160.4
1988: I	951.0	404.6	107.2	55.9	383.4	1,106.1	377.7	298.4	422.9	11.5	111.1	149.9	33.0	–155.1
II	983.0	425.0	111.7	55.9	390.3	1,116.3	382.2	298.8	426.5	11.0	110.4	152.1	34.0	–133.3
III	975.5	408.3	113.1	57.1	397.0	1,099.0	367.7	294.3	428.3	12.5	111.5	154.9	24.1	–123.5

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.

[2] Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis. The 3-month period from July 1, 1976 through September 30, 1976 is a separate fiscal period known as the transition quarter.

[3] Estimates.

Sources: Department of Commerce (Bureau of Economic Analysis) and Office of Management and Budget.

TABLE B–82.—*State and local government receipts and expenditures, national income and product accounts, 1946–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Receipts						Expenditures					Surplus or deficit (–), national income and product accounts
	Total	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance	Federal grants-in-aid	Total [1]	Purchases of goods and services	Transfer payments to persons	Net interest paid less dividends received	Subsidies less current surplus of government enterprises	
1946	13.0	1.5	0.5	9.3	0.6	1.1	11.1	9.9	1.7	0.2	−0.7	1.9
1947	15.4	1.7	.6	10.7	.7	1.7	14.4	12.8	2.3	.1	−.8	1.0
1948	17.7	2.1	.7	12.2	.8	2.0	17.6	15.3	3.0	.1	−.8	.1
1949	19.5	2.4	.6	13.3	.9	2.2	20.2	18.0	3.0	.1	−.9	−.7
1950	21.3	2.5	.8	14.6	1.1	2.3	22.5	19.8	3.6	.1	−.9	−1.2
1951	23.4	2.8	.9	15.9	1.4	2.5	23.9	21.8	3.1	.0	−1.0	−.4
1952	25.4	3.0	.8	17.4	1.6	2.6	25.5	23.1	3.5	.0	−1.1	.0
1953	27.4	3.2	.8	18.8	1.7	2.8	27.3	24.8	3.6	.0	−1.2	.1
1954	29.0	3.5	.8	19.9	2.0	2.9	30.2	27.7	3.8	.1	−1.3	−1.1
1955	31.7	3.9	1.0	21.6	2.1	3.1	32.9	30.3	4.0	.1	−1.5	−1.3
1956	35.0	4.5	1.0	23.8	2.3	3.3	35.9	33.3	4.2	.1	−1.6	−.9
1957	38.5	5.0	1.0	25.7	2.6	4.2	39.8	36.9	4.6	.1	−1.7	−1.4
1958	42.0	5.4	1.0	27.2	2.8	5.6	44.4	40.8	5.1	.1	−1.7	−2.4
1959	46.6	6.2	1.2	29.3	3.1	6.8	47.0	43.3	5.6	.1	−2.0	−.4
1960	50.0	6.8	1.2	32.0	3.4	6.5	49.9	46.1	5.9	.1	−2.2	.1
1961	54.1	7.5	1.3	34.4	3.7	7.2	54.5	50.2	6.5	.1	−2.3	−.4
1962	58.6	8.4	1.5	37.0	3.9	8.0	58.2	53.5	7.0	.2	−2.5	.5
1963	63.4	9.0	1.7	39.4	4.2	9.1	62.9	58.1	7.5	.1	−2.8	.5
1964	69.8	10.2	1.8	42.6	4.7	10.4	68.8	63.5	8.2	−.1	−2.8	1.0
1965	75.5	11.3	2.0	46.1	5.0	11.1	75.5	69.9	8.8	−.3	−3.0	.0
1966	85.2	13.2	2.2	49.7	5.7	14.4	84.7	78.2	10.1	−.6	−3.0	.5
1967	94.1	15.0	2.6	53.9	6.7	15.9	95.2	87.0	12.1	−.9	−3.1	−1.1
1968	107.9	18.0	3.3	60.8	7.2	18.6	107.8	97.6	14.5	−1.1	−3.2	.1
1969	120.8	21.1	3.6	67.4	8.3	20.3	119.3	107.2	16.7	−1.3	−3.3	1.5
1970	135.8	23.6	3.7	74.8	9.2	24.4	134.0	119.4	20.1	−2.0	−3.6	1.8
1971	153.6	27.0	4.3	83.1	10.2	29.0	151.0	132.5	24.0	−1.6	−3.7	2.6
1972	179.3	33.8	5.3	91.2	11.5	37.5	165.8	144.2	27.5	−1.8	−4.2	13.5
1973	196.4	37.3	6.0	99.6	13.0	40.6	182.9	160.1	30.4	−3.3	−4.3	13.5
1974	213.1	40.5	6.7	107.4	14.6	43.9	205.9	182.9	32.3	−5.0	−4.4	7.2
1975	239.6	44.7	7.3	116.2	16.8	54.6	235.2	205.9	38.9	−5.1	−4.5	4.5
1976	270.1	51.5	9.6	128.4	19.5	61.1	254.9	220.6	43.6	−4.5	−4.8	15.2
1977	300.1	58.3	11.4	140.7	22.1	67.5	273.2	236.2	47.4	−5.3	−5.1	26.9
1978	330.3	66.2	12.1	150.0	24.7	77.3	301.3	263.4	52.4	−8.7	−5.6	28.9
1979	355.3	73.7	13.6	160.1	27.4	80.5	327.7	289.9	57.2	−13.8	−5.7	27.6
1980	390.0	82.6	14.5	174.5	29.7	88.7	363.2	322.2	65.7	−18.9	−5.8	26.8
1981	425.6	94.5	15.4	195.3	32.5	87.9	391.4	345.9	73.6	−22.4	−5.6	34.1
1982	449.4	104.9	14.0	210.8	35.8	83.9	414.3	368.0	79.9	−27.4	−7.3	35.1
1983	487.7	116.1	15.9	231.0	38.5	86.2	440.2	391.5	86.5	−29.0	−8.8	47.5
1984	540.5	129.8	18.7	258.2	40.2	93.6	475.9	425.3	93.7	−31.9	−11.3	64.6
1985	581.8	140.2	20.2	278.5	43.2	99.7	516.7	465.6	101.1	−37.0	−13.1	65.1
1986	623.0	150.0	22.7	297.6	46.0	106.8	561.9	505.0	110.1	−40.3	−13.1	61.2
1987	655.7	164.7	27.9	312.3	48.1	102.7	602.8	542.8	118.7	−44.6	−14.0	52.9
1982: IV	459.8	108.1	13.4	216.9	36.9	84.5	424.1	378.7	82.3	−28.9	−8.0	35.8
1983: IV	505.8	122.0	17.9	240.5	39.4	86.0	449.5	400.0	88.7	−29.7	−9.4	56.4
1984: IV	554.5	133.6	17.3	266.5	40.7	96.3	489.1	438.5	96.4	−33.2	−12.6	65.4
1985: IV	598.0	144.3	21.0	284.8	44.4	103.5	531.8	480.1	104.2	−38.8	−13.7	66.3
1986: I	613.1	145.6	20.5	296.6	44.8	105.6	545.9	491.2	106.7	−39.1	−12.9	67.2
II	616.6	147.0	22.4	292.0	45.2	110.0	556.5	500.2	109.1	−39.7	−13.0	60.1
III	629.6	150.7	23.2	300.7	45.7	109.2	566.9	509.1	111.3	−40.4	−13.1	62.7
IV	632.9	156.5	24.6	301.2	48.2	102.3	578.1	519.7	113.4	−41.8	−13.3	54.8
1987: I	637.5	158.4	26.2	304.0	47.0	101.9	589.9	531.1	115.6	−42.9	−13.9	47.7
II	659.3	168.9	27.6	309.5	47.7	105.5	597.9	538.2	117.7	−44.0	−13.9	61.4
III	659.1	162.9	29.4	316.5	48.4	101.9	606.2	546.0	119.7	−45.2	−14.3	52.9
IV	666.9	168.6	28.5	319.2	49.2	101.4	617.2	555.9	121.7	−46.2	−14.1	49.7
1988: I	685.5	171.3	29.7	323.5	49.9	111.1	629.7	567.5	123.8	−47.3	−14.4	55.8
II	698.4	176.0	31.5	329.8	50.6	110.4	642.1	579.4	126.0	−48.4	−14.7	56.2
III	708.0	178.2	31.7	335.3	51.4	111.5	652.0	587.6	129.3	−49.6	−15.3	56.0

[1] Includes an item for the difference between wage accruals and disbursements, not shown separately.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–83.—*State and local government revenues and expenditures, selected fiscal years, 1927–87*

[Millions of dollars]

Fiscal year [1]	General revenues by source [2]							General expenditures by function [2]				
	Total	Property taxes	Sales and gross receipts taxes	Individual income taxes	Corporation net income taxes	Revenue from Federal Government	All other [3]	Total	Education	Highways	Public welfare	All other [4]
1927	7,271	4,730	470	70	92	116	1,793	7,210	2,235	1,809	151	3,015
1932	7,267	4,487	752	74	79	232	1,643	7,765	2,311	1,741	444	3,269
1934	7,678	4,076	1,008	80	49	1,016	1,449	7,181	1,831	1,509	889	2,952
1936	8,395	4,093	1,484	153	113	948	1,604	7,644	2,177	1,425	827	3,215
1938	9,228	4,440	1,794	218	165	800	1,811	8,757	2,491	1,650	1,069	3,547
1940	9,609	4,430	1,982	224	156	945	1,872	9,229	2,638	1,573	1,156	3,862
1942	10,418	4,537	2,351	276	272	858	2,123	9,190	2,586	1,490	1,225	3,889
1944	10,908	4,604	2,289	342	451	954	2,269	8,863	2,793	1,200	1,133	3,737
1946	12,356	4,986	2,986	422	447	855	2,661	11,028	3,356	1,672	1,409	4,591
1948	17,250	6,126	4,442	543	592	1,861	3,685	17,684	5,379	3,036	2,099	7,170
1950	20,911	7,349	5,154	788	593	2,486	4,541	22,787	7,177	3,803	2,940	8,867
1952	25,181	8,652	6,357	998	846	2,566	5,763	26,098	8,318	4,650	2,788	10,342
1953	27,307	9,375	6,927	1,065	817	2,870	6,252	27,910	9,390	4,987	2,914	10,619
1954	29,012	9,967	7,276	1,127	778	2,966	6,897	30,701	10,557	5,527	3,060	11,557
1955	31,073	10,735	7,643	1,237	744	3,131	7,584	33,724	11,907	6,452	3,168	12,197
1956	34,667	11,749	8,691	1,538	890	3,335	8,465	36,711	13,220	6,953	3,139	13,399
1957	38,164	12,864	9,467	1,754	984	3,843	9,252	40,375	14,134	7,816	3,485	14,940
1958	41,219	14,047	9,829	1,759	1,018	4,865	9,699	44,851	15,919	8,567	3,818	16,547
1959	45,306	14,983	10,437	1,994	1,001	6,377	10,516	48,887	17,283	9,592	4,136	17,876
1960	50,505	16,405	11,849	2,463	1,180	6,974	11,634	51,876	18,719	9,428	4,404	19,325
1961	54,037	18,002	12,463	2,613	1,266	7,131	12,563	56,201	20,574	9,844	4,720	21,063
1962	58,252	19,054	13,494	3,037	1,308	7,871	13,489	60,206	22,216	10,357	5,084	22,549
1963	62,890	20,089	14,456	3,269	1,505	8,722	14,850	64,816	23,776	11,136	5,481	24,423
1962–63	62,269	19,833	14,446	3,267	1,505	8,663	14,556	63,977	23,729	11,150	5,420	23,678
1963–64	68,443	21,241	15,762	3,791	1,695	10,002	15,951	69,302	26,286	11,664	5,766	25,586
1964–65	74,000	22,583	17,118	4,090	1,929	11,029	17,250	74,678	28,563	12,221	6,315	27,579
1965–66	83,036	24,670	19,085	4,760	2,038	13,214	19,269	82,843	33,287	12,770	6,757	30,029
1966–67	91,197	26,047	20,530	5,825	2,227	15,370	21,197	93,350	37,919	13,932	8,218	33,281
1967–68	101,264	27,747	22,911	7,308	2,518	17,181	23,598	102,411	41,158	14,481	9,857	36,915
1968–69	114,550	30,673	26,519	8,908	3,180	19,153	26,118	116,728	47,238	15,417	12,110	41,963
1969–70	130,756	34,054	30,322	10,812	3,738	21,857	29,971	131,332	52,718	16,427	14,679	47,508
1970–71	144,927	37,852	33,233	11,900	3,424	26,146	32,374	150,674	59,413	18,095	18,226	54,940
1971–72	167,541	42,877	37,518	15,227	4,416	31,342	36,162	168,549	65,814	19,021	21,117	62,597
1972–73	190,214	45,283	42,047	17,994	5,425	39,256	40,210	181,357	69,714	18,615	23,582	69,446
1973–74	207,670	47,705	46,098	19,491	6,015	41,820	46,541	198,959	75,833	19,946	25,085	78,096
1974–75	228,171	51,491	49,815	21,454	6,642	47,034	51,735	230,721	87,858	22,528	28,155	92,180
1975–76	256,176	57,001	54,547	24,575	7,273	55,589	57,191	256,731	97,216	23,907	32,604	103,004
1976–77	285,157	62,527	60,641	29,246	9,174	62,444	61,124	274,215	102,780	23,058	35,906	112,472
1977–78	315,960	66,422	67,596	33,176	10,738	69,592	68,436	296,983	110,758	24,609	39,140	122,476
1978–79	343,278	64,944	74,247	36,932	12,128	75,164	79,864	327,517	119,448	28,440	41,898	137,731
1979–80	382,322	68,499	79,927	42,080	13,321	83,029	95,466	369,086	133,211	33,311	47,288	155,277
1980–81	423,404	74,969	85,971	46,426	14,143	90,294	111,599	407,449	145,784	34,603	54,121	172,941
1981–82	457,654	82,067	93,613	50,738	15,028	87,282	128,926	436,896	154,282	34,520	57,996	190,098
1982–83	486,753	89,105	100,247	55,129	14,258	90,007	138,008	466,516	163,876	36,655	60,906	205,079
1983–84	542,730	96,457	114,097	64,529	17,141	96,935	153,570	505,008	176,108	39,419	66,414	223,068
1984–85	598,121	103,757	126,376	70,361	19,152	106,158	172,317	553,899	192,686	44,989	71,479	244,745
1985–86	641,457	111,710	135,001	74,354	19,982	113,099	187,312	605,594	210,819	49,368	75,868	269,540
1986–87	686,164	121,227	144,293	83,681	22,672	114,996	199,296	656,064	226,658	52,199	82,520	294,687

[1] Fiscal years not the same for all governments. See Note.

[2] Excludes revenues or expenditures of publicly owned utilities and liquor stores, and of insurance-trust activities. Intergovernmental receipts and payments between State and local governments are also excluded.

[3] Includes other taxes and charges and miscellaneous revenues.

[4] Includes expenditures for libraries, hospitals, health, employment security administration, veterans' services, air transportation, water transport and terminals, parking facilities, and transit subsidies, police protection, fire protection, correction, protective inspection and regulation, sewerage, natural resources, parks and recreation, housing and community development, sanitation other than sewerage, financial administration, judicial and legal, general public buildings, other governmental administration, interest on general debt, and general expenditures, n.e.c.

Note.—Data for fiscal years listed from 1962–63 to 1986–87 are the aggregations of data for government fiscal years which ended in the 12-month period from July 1 to June 30 of those years. Data for 1963 and earlier years include data for government fiscal years ending during that particular calendar year.
Data are not available for intervening years.

Source: Department of Commerce, Bureau of the Census.

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TABLE B–84.—*Interest-bearing public debt securities by kind of obligation, 1967–88*

[Millions of dollars]

End of year or month	Total [1] interest-bearing public debt securities	Marketable				Nonmarketable				
		Total [1]	Treasury bills	Treasury notes	Treasury bonds	Total	U.S. savings bonds	Foreign government and public series [2]	Government account series	Other [3]
Fiscal year:										
1967	322,286	[4] 210,672	58,535	49,108	97,418	111,614	51,213	1,514	56,155	2,731
1968	344,401	226,592	64,440	71,073	91,079	117,808	51,712	3,741	59,526	2,828
1969	351,729	226,107	68,356	78,946	78,805	125,623	51,711	4,070	66,790	3,051
1970	369,026	232,599	76,154	93,489	62,956	136,426	51,281	4,755	76,323	4,068
1971	396,289	245,473	86,677	104,807	53,989	150,816	53,003	9,270	82,784	5,759
1972	425,360	257,202	94,648	113,419	49,135	168,158	55,921	18,985	89,598	3,654
1973	456,353	262,971	100,061	117,840	45,071	193,382	59,418	28,524	101,738	3,701
1974	473,238	266,575	105,019	128,419	33,137	206,663	61,921	25,011	115,442	4,289
1975	532,122	315,606	128,569	150,257	36,779	216,516	65,482	23,216	124,173	3,644
1976	619,254	392,581	161,198	191,758	39,626	226,673	69,733	21,500	130,557	4,883
1977	697,629	443,508	156,091	241,692	45,724	254,121	75,411	21,799	140,113	16,797
1978	766,971	485,155	160,936	267,865	56,355	281,816	79,798	21,680	153,271	27,067
1979	819,007	506,693	161,378	274,242	71,073	312,314	80,440	28,115	176,360	27,400
1980	906,402	594,506	199,832	310,903	83,772	311,896	72,727	25,158	189,848	24,164
1981	996,495	683,209	223,388	363,643	96,178	313,286	68,017	20,499	201,052	23,718
1982	1,140,883	824,422	277,900	442,890	103,631	316,461	67,274	14,641	210,462	24,085
1983	1,375,751	1,024,000	340,733	557,525	125,742	351,751	70,024	11,450	234,684	35,593
1984	1,559,570	1,176,556	356,798	661,687	158,070	383,015	72,832	8,806	259,534	41,843
1985	1,821,010	1,360,179	384,220	776,449	199,510	460,831	77,011	6,638	313,928	63,255
1986	2,122,684	[1] 1,564,329	410,730	896,884	241,716	558,355	85,551	4,128	365,872	102,804
1987	2,347,750	[1] 1,675,980	378,263	1,005,127	277,590	671,769	97,004	4,350	440,658	129,758
1988	2,599,877	[1] 1,802,905	398,451	1,089,578	299,875	796,972	106,176	6,320	536,455	148,023
1987: Jan	2,208,974	[1] 1,612,682	423,333	924,546	249,803	596,292	91,421	4,430	389,424	111,017
Feb	2,228,408	[1] 1,622,814	416,735	931,790	259,289	605,594	92,218	4,384	393,672	115,320
Mar	2,244,023	[1] 1,635,716	406,194	955,265	259,257	608,307	93,042	4,934	391,415	118,915
Apr	2,265,559	[1] 1,639,156	400,653	964,265	259,238	626,403	93,826	4,773	403,750	124,054
May	2,274,341	[1] 1,640,597	395,105	961,922	268,570	633,744	94,588	5,073	409,890	124,193
June	2,306,705	[1] 1,658,996	391,049	984,385	268,561	647,710	95,232	5,071	421,579	125,828
July	2,304,494	[1] 1,651,627	375,314	992,774	268,539	652,867	95,895	4,426	422,440	130,105
Aug	2,341,659	[1] 1,685,707	390,561	1,002,535	277,611	655,952	96,448	4,430	426,711	128,363
Sept	2,347,750	[1] 1,675,980	378,263	1,005,127	277,590	671,769	97,004	4,350	440,658	129,758
Oct	2,372,089	[1] 1,692,601	390,304	1,009,870	277,582	679,488	97,610	3,980	447,904	129,994
Nov	2,407,080	[1] 1,716,023	390,714	1,027,972	282,493	691,057	98,482	3,793	449,009	139,773
Dec	2,428,935	[1] 1,724,689	389,497	1,037,861	282,486	704,246	99,236	3,976	461,261	139,773
1988: Jan	2,435,134	[1] 1,719,310	390,031	1,031,966	282,468	715,824	100,515	3,917	472,625	138,767
Feb	2,469,235	[1] 1,746,182	390,001	1,050,048	291,288	723,053	101,528	3,716	475,873	141,936
Mar	2,484,908	[1] 1,758,670	392,847	1,059,910	291,268	726,238	102,343	6,134	474,450	143,311
Apr	2,488,231	[1] 1,744,791	386,046	1,052,653	291,247	743,440	103,421	6,135	490,107	143,778
May	2,517,135	[1] 1,762,457	383,142	1,064,530	299,940	754,678	103,978	5,626	500,706	144,370
June	2,544,998	[1] 1,769,927	382,292	1,072,706	299,929	775,072	104,515	5,710	517,472	147,374
July	2,539,403	[1] 1,761,795	382,708	1,064,170	299,916	777,608	105,141	5,907	519,516	147,044
Aug	2,573,320	[1] 1,790,712	393,392	1,082,422	299,898	782,607	105,486	7,589	522,220	147,312
Sept	2,599,877	[1] 1,802,905	398,451	1,089,578	299,875	796,972	106,176	6,320	536,455	148,023

[1] Includes Federal Financing Bank securities, not shown separately, in millions of dollars: 15,000 in September 1986–September 1987; 14,845 in October 1987–May 1988; and 15,000 in June–September 1988.

[2] Nonmarketable certificates of indebtedness, notes, bonds, and bills in the Treasury foreign series of dollar-denominated and foreign-currency denominated issues.

[3] Includes depository bonds, retirement plan bonds, Rural Electrification Administration bonds, State and local bonds, and special issues held only by U.S. Government agencies and trust funds and the Federal home loan banks.

[4] Includes $5,610 million in certificates not shown separately.

NOTE.—Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1–September 30 basis.

SOURCE: Department of the Treasury.

TABLE B–85.—*Maturity distribution and average length of marketable interest-bearing public debt securities held by private investors, 1967–88*

End of year or month	Amount outstanding, privately held	Maturity class					Average length	
		Within 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and over		
	Millions of dollars						Years	Months
Fiscal year:								
1967	150,321	56,561	53,584	21,057	6,153	12,968	5	1
1968	159,671	66,746	52,295	21,850	6,110	12,670	4	5
1969	156,008	69,311	50,182	18,078	6,097	12,337	4	2
1970	157,910	76,443	57,035	8,286	7,876	8,272	3	8
1971	161,863	74,803	58,557	14,503	6,357	7,645	3	6
1972	165,978	79,509	57,157	16,033	6,358	6,922	3	3
1973	167,869	84,041	54,139	16,385	8,741	4,564	3	1
1974	164,862	87,150	50,103	14,197	9,930	3,481	2	11
1975	210,382	115,677	65,852	15,385	8,857	4,611	2	8
1976	279,782	151,723	89,151	24,169	8,087	6,652	2	7
1977	326,674	161,329	113,319	33,067	8,428	10,531	2	11
1978	356,501	163,819	132,993	33,500	11,383	14,805	3	3
1979	380,530	181,883	127,574	32,279	18,489	20,304	3	7
1980	463,717	220,084	156,244	38,809	25,901	22,679	3	9
1981	549,863	256,187	182,237	48,743	32,569	30,127	4	0
1982	682,043	314,436	221,783	75,749	33,017	37,058	3	11
1983	862,631	379,579	294,955	99,174	40,825	48,097	4	1
1984	1,017,488	437,941	332,808	130,417	49,664	66,658	4	6
1985	1,185,675	472,661	402,766	159,383	62,853	88,012	4	11
1986	1,354,275	506,903	467,348	189,995	70,664	119,365	5	3
1987	1,445,366	483,582	526,746	209,160	72,862	153,016	5	9
1988	1,555,208	524,201	552,993	232,453	74,186	171,375	5	9
1987: Jan	1,392,298	511,792	480,085	201,022	70,861	128,538	5	4
Feb	1,410,621	509,182	492,477	199,928	73,553	135,481	5	7
Mar	1,420,644	496,642	506,646	208,331	73,544	135,481	5	6
Apr	1,401,609	489,343	496,631	207,786	73,158	134,691	5	6
May	1,415,262	487,944	508,008	201,683	73,196	144,431	5	9
June	1,428,020	482,919	518,547	209,422	72,903	144,229	5	8
July	1,424,781	476,623	520,691	210,380	72,859	144,228	5	8
Aug	1,459,793	495,018	528,692	209,710	73,036	153,338	5	9
Sept	1,445,366	483,582	526,746	209,160	72,862	153,016	5	9
Oct	1,457,652	500,525	523,169	209,135	72,776	152,047	5	8
Nov	1,478,550	503,235	530,327	214,818	74,051	156,119	5	9
Dec	1,483,625	502,918	528,258	222,785	73,875	155,789	5	9
1988: Jan	1,483,135	506,561	522,336	224,032	73,947	156,259	5	9
Feb	1,510,778	511,150	542,026	218,633	73,944	165,025	5	10
Mar	1,522,745	514,363	542,609	226,733	74,015	165,025	5	9
Apr	1,496,896	507,457	528,078	224,286	73,382	163,639	5	9
May	1,520,909	507,638	544,505	222,586	73,228	172,952	5	11
June	1,523,776	508,031	540,794	229,204	73,131	172,616	5	10
July	1,520,303	508,332	535,847	229,946	73,226	172,952	5	10
Aug	1,549,398	521,960	555,299	225,965	74,571	171,603	5	10
Sept	1,555,208	524,201	552,993	232,453	74,186	171,375	5	9

Note.—All issues classified to final maturity.
Through fiscal year 1976, the fiscal year was on a July 1–June 30 basis; beginning October 1976 (fiscal year 1977), the fiscal year is on an October 1—September 30 basis.

Source: Department of the Treasury.

TABLE B–86.—*Estimated ownership of public debt securities by private investors, 1976–88*

[Par values;[1] billions of dollars]

End of month	Total	Held by private investors									
		Commercial banks[2]	Nonbank investors								
			Total	Individuals[3]			Insurance companies	Money market funds	Corporations[5]	State and local governments[6]	Foreign and international[7]	Other investors[8]
				Total	Savings bonds[4]	Other securities						
1976:												
June	376.4	91.4	285.0	96.1	69.6	26.5	14.4	0.8	23.3	34.2	69.8	46.4
Dec	409.5	103.5	306.0	101.6	72.0	29.6	16.2	1.1	23.5	40.9	78.1	44.6
1977:												
June	421.0	102.7	318.3	104.9	74.4	30.5	18.1	.8	22.1	50.3	87.9	34.2
Dec	461.3	98.9	362.4	107.8	76.7	31.1	19.9	.9	18.2	58.1	109.6	47.9
1978:												
June	477.8	97.8	380.0	109.0	79.1	29.9	19.7	1.3	17.3	70.0	119.5	43.2
Dec	508.6	95.0	413.6	114.0	80.7	33.3	20.0	1.5	17.3	76.1	133.1	51.6
1979:												
June	516.6	86.1	430.5	115.5	80.6	34.9	20.9	3.8	18.6	78.7	114.9	78.1
Dec	540.5	88.1	452.4	118.0	79.9	38.1	21.4	5.6	17.0	81.7	119.0	89.7
1980:												
June	558.2	97.4	460.8	116.5	73.4	43.1	22.3	5.3	14.0	83.3	118.2	101.2
Dec	616.4	112.1	504.3	117.1	72.5	44.6	24.0	3.5	19.3	87.9	129.7	122.8
1981:												
June	651.2	119.7	531.5	107.4	69.2	38.2	26.4	9.0	19.9	94.2	136.6	138.0
Dec	694.5	111.4	583.1	110.8	68.1	42.7	29.0	21.5	17.9	96.8	136.6	170.5
1982:												
June	740.9	116.1	624.8	114.1	67.4	46.7	35.8	22.4	17.6	103.3	137.2	194.4
Dec	848.4	131.4	717.0	116.5	68.3	48.2	44.1	42.6	24.5	115.0	149.5	224.8
1983:												
Mar	906.6	153.2	753.4	116.7	68.8	47.9	49.6	44.8	27.2	123.0	156.2	235.9
June	948.6	171.6	777.0	121.3	69.7	51.6	54.0	28.3	32.8	127.4	160.1	253.1
Sept	982.7	176.3	806.4	129.0	70.6	58.4	58.5	22.1	35.9	137.0	160.1	263.8
Dec	1,022.6	188.8	833.8	133.4	71.5	61.9	65.3	22.8	39.7	149.0	166.3	257.3
1984:												
Mar	1,073.0	192.9	880.1	136.2	72.2	64.0	66.1	19.4	42.6	155.0	166.3	294.5
June	1,102.2	185.4	916.8	142.2	72.9	69.3	64.2	14.9	45.3	162.9	171.6	315.7
Sept	1,154.1	184.6	969.5	142.4	73.7	68.7	56.5	13.6	47.7	170.0	175.5	363.8
Dec	1,212.5	186.0	1,026.5	143.8	74.5	69.3	64.5	25.9	50.1	173.0	192.9	376.3
1985:												
Mar	1,254.1	197.8	1,056.3	145.1	75.4	69.7	66.5	26.7	50.8	177.0	186.4	403.8
June	1,292.0	201.6	1,090.4	148.7	76.7	72.0	69.1	24.8	54.9	190.3	200.7	401.9
Sept	1,338.2	203.6	1,134.6	151.4	78.2	73.2	71.4	22.7	59.0	203.0	209.8	417.3
Dec	1,417.2	198.2	1,219.0	154.8	79.8	75.0	78.5	25.1	59.0	226.7	212.5	462.4
1986:												
Mar	1,473.1	201.7	1,271.4	157.8	81.4	76.4	84.0	29.9	59.6	225.6	217.9	496.6
June	1,502.7	200.6	1,302.1	159.5	83.8	75.7	88.6	22.8	61.2	227.1	237.1	505.8
Sept	1,553.3	200.9	1,352.4	158.0	87.1	70.9	96.4	24.9	65.7	251.2	253.4	502.8
Dec	1,602.0	203.5	1,398.5	162.8	92.3	70.5	105.6	28.0	68.8	262.8	251.6	518.9
1987:												
Mar	1,641.4	199.9	1,441.5	163.0	94.7	68.3	112.2	18.5	73.5	264.6	260.3	549.4
June	1,657.7	199.3	1,458.4	165.4	96.8	68.7	112.2	20.6	79.7	268.7	268.6	543.2
Sept	1,682.6	205.0	1,477.6	168.9	98.5	70.4	118.4	15.2	81.8	273.0	267.0	553.3
Dec	1,745.2	201.2	1,544.0	173.4	101.1	72.3	120.6	14.3	84.6	282.6	287.3	581.2
1988:												
Mar	1,778.2	201.0	1,577.2	173.8	104.0	69.8	125.5	14.9	83.0	285.8	321.0	573.2
June	1,784.9	202.5	1,582.4	177.9	106.2	71.7	132.2	13.1	86.5	286.3	333.8	552.6
Sept	1,819.0	203.0	1,616.0	179.8	107.8	72.0	135.0	10.8	86.0	287.0	334.3	583.1

[1] U.S. savings bonds, series A–F and J, are included at current redemption value.
[2] Includes domestically chartered banks, U.S. branches and agencies of foreign banks, New York investment companies majority owned by foreign banks, and Edge Act corporations owned by domestically chartered and foreign banks.
[3] Includes partnerships and personal trust accounts.
[4] Includes U.S. savings notes. Sales began May 1, 1967, and were discontinued June 30, 1970.
[5] Exclusive of banks and insurance companies.
[6] Includes State and local pension funds.
[7] Consists of the investment of foreign balances and international accounts in the United States.
[8] Includes savings and loan associations, credit unions, nonprofit institutions, mutual savings banks, corporate pension trust funds, dealers and brokers, certain Government deposit accounts, and Government-sponsored agencies.

Source: Department of the Treasury.

TABLE B–87.—*Corporate profits with inventory valuation and capital consumption adjustments, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation and capital consumption adjustments	Corporate profits tax liability	Corporate profits after tax with inventory valuation and capital consumption adjustments		
			Total	Dividends	Undistributed profits with inventory valuation and capital consumption adjustments
1929	9.6	1.4	8.2	5.8	2.4
1933	−1.5	.5	−2.1	2.0	−4.1
1939	5.5	1.4	4.0	3.8	.3
1940	8.8	2.8	5.9	4.0	1.9
1941	14.3	7.6	6.7	4.4	2.3
1942	19.7	11.4	8.3	4.3	4.0
1943	24.0	14.1	9.9	4.4	5.5
1944	24.2	12.9	11.2	4.6	6.6
1945	19.7	10.7	9.0	4.6	4.4
1946	17.2	9.1	8.0	5.6	2.5
1947	22.9	11.3	11.7	6.3	5.4
1948	30.3	12.4	17.8	7.0	10.8
1949	28.0	10.2	17.8	7.2	10.6
1950	34.9	17.9	17.0	8.8	8.2
1951	39.9	22.6	17.3	8.5	8.8
1952	37.5	19.4	18.1	8.5	9.6
1953	37.7	20.3	17.4	8.8	8.6
1954	36.6	17.6	19.0	9.1	9.8
1955	47.1	22.0	25.1	10.3	14.8
1956	45.7	22.0	23.8	11.1	12.7
1957	45.3	21.4	23.8	11.5	12.3
1958	40.3	19.0	21.4	11.3	10.1
1959	51.4	23.6	27.8	12.2	15.6
1960	49.5	22.7	26.8	12.9	13.9
1961	50.3	22.8	27.6	13.3	14.2
1962	58.3	24.0	34.3	14.4	19.9
1963	63.6	26.2	37.4	15.5	21.9
1964	70.7	28.0	42.7	17.3	25.3
1965	81.3	30.9	50.4	19.1	31.3
1966	86.6	33.7	52.9	19.4	33.5
1967	84.1	32.7	51.4	20.2	31.2
1968	90.7	39.4	51.4	22.0	29.4
1969	87.4	39.7	47.7	22.5	25.2
1970	74.7	34.4	40.3	22.5	17.9
1971	87.1	37.7	49.3	22.9	26.4
1972	100.7	41.9	58.8	24.4	34.4
1973	113.3	49.3	64.1	27.0	37.0
1974	101.7	51.8	49.9	29.7	20.2
1975	117.6	50.9	66.7	29.6	37.1
1976	145.2	64.2	81.0	34.6	46.4
1977	174.8	73.0	101.8	39.5	62.3
1978	197.2	83.5	113.7	44.7	69.0
1979	200.1	88.0	112.1	50.1	62.0
1980	177.2	84.8	92.4	54.7	37.7
1981	188.0	81.1	106.8	63.6	43.2
1982	150.0	63.1	86.9	66.9	20.0
1983	213.7	77.2	136.5	71.5	65.0
1984	266.9	93.9	173.0	79.0	94.0
1985	282.3	96.4	185.9	83.3	102.6
1986	298.9	106.6	192.3	88.2	104.1
1987	310.4	133.8	176.6	95.5	81.1
1982: IV	146.1	59.8	86.3	68.5	17.9
1983: IV	248.5	88.1	160.4	73.9	86.5
1984: IV	266.9	87.0	179.9	80.8	99.1
1985: IV	291.4	99.8	191.5	84.0	107.6
1986: I	303.2	99.2	204.0	86.2	117.8
II	297.1	104.9	192.2	88.0	104.2
III	301.2	107.9	193.3	88.9	104.4
IV	293.9	114.3	179.6	89.8	89.9
1987: I	298.3	126.3	172.0	91.7	80.3
II	305.2	132.6	172.6	94.0	78.5
III	322.0	140.0	182.1	97.0	85.0
IV	316.1	136.2	179.9	99.3	80.5
1988: I	316.2	136.9	179.3	101.3	78.1
II	326.5	143.2	183.2	103.1	80.1
III	330.0	144.8	185.2	105.7	79.5

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–88.—*Corporate profits by industry, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment										
	Total	Domestic industries									Rest of the world
		Total	Financial[1]			Nonfinancial					
			Total	Federal Reserve banks	Other	Total	Manufacturing[2]	Transportation and public utilities	Wholesale and retail trade	Other	
1929	10.5	10.2	1.3	0.0	1.3	8.9	5.2	1.8	1.0	0.9	0.2
1933	−1.2	−1.2	.3	.0	.3	−1.5	−.4	.0	−.5	−.7	.0
1939	6.5	6.1	.8	.0	.8	5.3	3.3	1.0	.7	.3	.3
1940	9.8	9.6	1.0	.0	.9	8.6	5.5	1.3	1.2	.6	.3
1941	15.4	15.0	1.1	.0	1.0	14.0	9.5	2.0	1.4	1.1	.4
1942	20.5	20.1	1.2	.0	1.2	18.9	11.8	3.4	2.2	1.5	.4
1943	24.5	24.1	1.3	.0	1.3	22.8	13.8	4.4	3.0	1.6	.4
1944	24.0	23.5	1.6	.1	1.6	21.9	13.2	3.9	3.2	1.6	.4
1945	19.3	18.9	1.7	.1	1.6	17.3	9.7	2.7	3.3	1.5	.3
1946	19.6	18.9	2.1	.1	2.0	16.8	9.0	1.8	3.8	2.1	.7
1947	25.9	24.9	1.7	.1	1.6	23.2	13.6	2.2	4.6	2.9	1.0
1948	33.4	32.2	2.6	.2	2.3	29.6	17.6	3.0	5.5	3.6	1.3
1949	31.1	29.9	3.1	.2	2.9	26.8	16.2	3.0	4.5	3.1	1.1
1950	37.9	36.7	3.1	.2	3.0	33.5	20.9	4.0	5.0	3.6	1.3
1951	43.3	41.5	3.6	.3	3.3	37.9	24.6	4.6	5.0	3.7	1.7
1952	40.6	38.7	4.0	.4	3.7	34.7	21.7	4.9	4.8	3.3	1.9
1953	40.2	38.4	4.5	.4	4.1	33.9	22.0	5.0	3.8	3.1	1.8
1954	38.4	36.4	4.6	.3	4.3	31.8	19.9	4.7	3.8	3.4	2.0
1955	47.5	45.1	4.8	.3	4.5	40.3	26.0	5.6	5.0	3.6	2.4
1956	46.9	44.1	5.0	.5	4.5	39.1	24.7	5.9	4.5	4.1	2.8
1957	46.6	43.5	5.2	.6	4.6	38.3	24.0	5.8	4.4	4.0	3.1
1958	41.6	39.1	5.7	.6	5.1	33.5	19.4	5.9	4.6	3.6	2.5
1959	52.3	49.6	6.8	.7	6.0	42.9	26.4	7.0	5.9	3.6	2.7
1960	49.8	46.7	7.2	1.0	6.2	39.5	23.6	7.4	4.9	3.6	3.1
1961	50.1	46.8	7.0	.8	6.3	39.8	23.3	7.8	5.0	3.7	3.3
1962	55.2	51.5	7.3	.9	6.4	44.2	26.0	8.4	5.8	3.9	3.7
1963	59.8	55.8	6.8	1.0	5.8	49.0	29.3	9.3	5.9	4.4	4.0
1964	66.2	61.8	6.9	1.1	5.8	54.9	32.3	10.0	7.5	5.1	4.4
1965	76.2	71.5	7.5	1.4	6.2	64.0	39.3	11.0	8.1	5.6	4.6
1966	81.2	76.7	8.5	1.7	6.8	68.2	41.9	11.8	8.2	6.3	4.4
1967	78.6	73.9	9.0	2.0	7.0	64.9	38.6	10.7	9.1	6.5	4.7
1968	85.4	79.9	10.4	2.5	7.9	69.5	41.4	10.8	10.4	6.9	5.5
1969	81.4	74.8	11.2	3.1	8.1	63.7	36.7	10.3	10.5	6.1	6.5
1970	69.5	62.6	12.2	3.6	8.6	50.4	26.7	8.2	9.6	5.9	6.9
1971	82.7	75.1	14.1	3.3	10.7	61.0	34.3	8.5	11.7	6.5	7.6
1972	94.9	85.5	15.4	3.4	12.0	70.2	40.8	9.0	13.4	6.9	9.3
1973	107.1	92.6	15.8	4.5	11.2	76.8	46.2	8.5	13.9	8.2	14.5
1974	99.4	82.4	14.7	5.7	8.9	67.8	39.8	6.7	12.9	8.3	17.0
1975	123.9	109.5	11.2	5.7	5.5	98.3	53.6	10.3	22.2	12.2	14.4
1976	155.3	139.3	15.9	6.0	9.9	123.4	70.9	14.8	23.0	14.7	16.0
1977	183.8	165.5	21.6	6.2	15.4	143.9	80.6	17.9	27.5	17.8	18.3
1978	208.2	186.0	29.1	7.7	21.4	156.8	88.7	20.9	27.3	20.0	22.2
1979	214.1	180.4	27.8	9.6	18.2	152.6	87.5	15.2	28.7	21.1	33.7
1980	194.0	159.6	21.0	11.9	9.0	138.6	77.1	17.6	21.6	22.4	34.4
1981	202.3	173.8	16.5	14.5	1.9	157.3	88.5	19.5	32.5	16.8	28.5
1982	159.2	131.2	11.8	15.4	−3.6	119.4	58.0	19.3	34.6	7.5	28.0
1983	196.7	166.6	18.1	14.8	3.3	148.5	70.1	28.5	38.9	10.9	30.2
1984	234.2	203.3	13.0	16.7	−3.7	190.3	88.8	38.5	51.2	11.8	30.9
1985	222.6	191.4	22.8	16.8	6.1	168.6	79.7	33.0	44.1	11.8	31.2
1986	244.7	212.8	31.8	16.0	15.8	180.9	79.4	39.2	46.1	16.3	31.9
1987	258.7	222.3	30.1	16.0	14.1	192.1	96.8	34.9	42.8	17.6	36.4
1982: IV	150.7	121.6	18.7	14.8	3.9	102.9	46.8	16.3	33.6	6.2	29.1
1983: IV	223.4	190.7	15.5	15.4	.1	175.2	88.6	31.3	43.1	12.2	32.7
1984: IV	224.6	193.9	13.6	17.4	−3.8	180.3	79.8	38.1	51.8	10.5	30.6
1985: IV	228.4	193.6	26.0	16.3	9.7	167.6	83.8	30.6	38.5	14.6	34.8
1986: I	243.4	208.5	31.6	16.9	14.7	176.9	75.4	36.0	48.5	17.0	34.9
II	242.1	213.5	34.5	16.1	18.4	179.0	80.5	39.0	43.4	16.1	28.7
III	249.2	217.2	32.4	15.6	16.7	184.9	73.8	43.7	49.9	17.4	32.0
IV	244.1	211.9	28.9	15.5	13.4	183.0	87.7	38.2	42.5	14.5	32.2
1987: I	247.5	213.0	30.7	15.7	15.0	182.3	84.8	33.8	46.5	17.2	34.5
II	253.6	219.2	31.4	16.0	15.4	187.8	93.8	35.8	37.8	20.4	34.4
III	269.9	234.6	29.5	16.2	13.4	205.1	107.0	34.0	44.1	20.0	35.3
IV	263.7	222.2	28.8	16.2	12.6	193.4	101.7	36.1	43.0	12.6	41.4
1988: I	266.8	236.6	27.6	17.5	10.1	209.0	110.6	34.5	43.9	20.0	30.2
II	278.5	243.1	30.0	17.4	12.6	213.1	114.5	38.2	37.0	23.4	35.4
III	284.6	243.8	32.7	18.2	14.5	211.1	111.4	39.3	36.6	23.8	40.8

[1] Consists of the following industries: Banking; credit agencies other than banks; security and commodity brokers, dealers, and services; insurance carriers; regulated investment companies; small business investment companies; and real estate investment trusts.
[2] See Table B–89 for industry detail.

Note.—The industry classification is on a company basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948, and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–89.—*Corporate profits of manufacturing industries, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Corporate profits with inventory valuation adjustment and without capital consumption adjustment												
	Total manufacturing	Durable goods							Nondurable goods				
		Total	Primary metal industries	Fabricated metal products	Machinery, except electrical	Electric and electronic equipment	Motor vehicles and equipment	Other	Total	Food and kindred products	Chemicals and allied products	Petroleum and coal products	Other
1929	5.2	2.6							2.6				
1933	–.4	–.4							.0				
1939	3.3	1.7							1.7				
1940	5.5	3.1							2.4				
1941	9.5	6.4							3.1				
1942	11.8	7.2							4.6				
1943	13.8	8.1							5.7				
1944	13.2	7.4							5.9				
1945	9.7	4.5							5.2				
1946	9.0	2.4							6.6				
1947	13.6	5.8							7.8				
1948	17.6	7.5	1.6	0.8	1.2	0.7	1.4	1.8	10.0	1.9	1.7	2.8	3.7
1949	16.2	8.1	1.5	.7	1.3	.8	2.1	1.7	8.1	1.6	1.8	1.9	2.8
1950	20.9	12.0	2.3	1.1	1.6	1.2	3.1	2.6	8.9	1.6	2.3	2.3	2.7
1951	24.6	13.2	3.1	1.3	2.3	1.3	2.4	2.8	11.4	1.4	2.8	2.7	4.4
1952	21.7	11.7	1.9	1.0	2.3	1.5	2.4	2.6	9.9	1.7	2.3	2.3	3.6
1953	22.0	11.9	2.5	1.0	1.9	1.4	2.6	2.6	10.1	1.8	2.2	2.8	3.3
1954	19.9	10.5	1.7	.9	1.7	1.2	2.1	2.9	9.4	1.6	2.2	2.7	2.9
1955	26.0	14.3	2.9	1.1	1.7	1.1	4.1	3.5	11.8	2.2	3.0	3.0	3.6
1956	24.7	12.8	3.0	1.1	2.1	1.2	2.2	3.2	11.9	1.8	2.8	3.3	4.1
1957	24.0	13.3	3.0	1.1	2.0	1.5	2.6	3.1	10.7	1.8	2.8	2.6	3.6
1958	19.4	9.3	1.9	.9	1.4	1.3	.9	2.9	10.0	2.1	2.5	2.1	3.3
1959	26.4	13.7	2.3	1.1	2.1	1.7	3.0	3.5	12.7	2.4	3.5	2.5	4.3
1960	23.6	11.6	2.0	.8	1.8	1.3	3.0	2.7	12.0	2.2	3.1	2.5	4.2
1961	23.3	11.4	1.6	1.0	1.9	1.3	2.5	3.1	11.9	2.3	3.2	2.2	4.1
1962	26.0	14.0	1.6	1.1	2.3	1.5	4.0	3.5	12.0	2.3	3.2	2.2	4.3
1963	29.3	16.3	2.0	1.3	2.5	1.6	4.9	4.0	13.1	2.7	3.6	2.1	4.6
1964	32.3	17.9	2.5	1.4	3.3	1.7	4.7	4.4	14.4	2.7	4.0	2.4	5.3
1965	39.3	23.0	3.1	2.0	3.9	2.7	6.2	5.1	16.3	2.8	4.6	2.9	6.0
1966	41.9	23.8	3.6	2.4	4.5	3.0	5.1	5.2	18.1	3.2	4.9	3.2	6.8
1967	38.6	21.0	2.7	2.4	4.1	2.9	3.9	4.9	17.6	3.2	4.3	3.9	6.3
1968	41.4	22.2	1.9	2.3	4.1	2.8	5.5	5.7	19.1	3.2	5.2	3.7	7.0
1969	36.7	19.0	1.4	2.0	3.7	2.3	4.8	4.9	17.7	3.0	4.6	3.3	6.9
1970	26.7	10.2	.8	1.1	3.0	1.2	1.2	2.9	16.5	3.2	3.9	3.5	5.9
1971	34.3	16.4	.7	1.5	2.9	1.9	5.1	4.3	17.9	3.5	4.5	3.6	6.4
1972	40.8	22.5	1.6	2.1	4.3	2.8	5.9	5.8	18.3	2.9	5.2	3.0	7.2
1973	46.2	24.7	2.3	2.6	4.7	3.0	5.8	6.2	21.6	2.5	6.0	5.2	7.9
1974	39.8	14.6	4.9	1.6	3.1	.3	.7	4.0	25.2	2.5	5.1	10.7	7.0
1975	53.6	19.8	2.7	3.1	4.8	2.4	2.0	4.8	33.8	8.8	6.4	9.5	9.1
1976	70.9	31.3	2.0	3.9	6.7	3.7	7.2	7.9	39.6	7.1	8.2	13.1	11.2
1977	80.6	38.6	1.3	4.4	8.9	5.8	9.4	8.8	42.0	6.9	7.8	12.9	14.4
1978	88.7	44.6	3.5	4.9	9.6	6.7	8.9	10.9	44.0	6.2	8.2	14.7	14.9
1979	87.5	37.3	3.6	5.2	9.1	5.2	4.7	9.5	50.2	5.8	7.2	22.5	14.7
1980	77.1	21.3	2.5	4.3	7.7	4.7	–2.5	4.5	55.8	6.1	5.4	31.4	12.9
1981	88.5	21.0	3.1	4.4	8.6	4.1	.1	.7	67.5	8.7	8.2	36.5	14.1
1982	58.0	2.1	–4.9	2.4	4.1	1.7	–.8	–.4	55.9	7.0	5.2	29.1	14.5
1983	70.1	17.2	–4.9	3.0	3.1	3.7	5.1	7.2	53.0	7.2	6.7	21.4	17.7
1984	88.8	38.1	–.6	4.7	6.2	5.5	9.0	13.3	50.7	6.7	8.0	17.2	18.8
1985	79.7	28.5	–1.4	4.6	3.2	3.6	7.2	11.3	51.2	8.3	6.2	17.5	19.2
1986	79.4	32.4	–.5	5.4	3.3	3.2	7.6	13.3	47.0	11.2	9.5	7.0	19.3
1987	96.8	36.5	1.4	5.7	3.2	3.2	7.3	15.7	60.3	12.8	13.5	12.2	21.9
1982: IV	46.8	–6.6	–5.1	.9	1.3	.1	–2.7	–1.2	53.5	7.1	3.2	25.9	17.3
1983: IV	88.6	29.4	–4.4	4.4	4.7	6.2	8.7	9.9	59.2	8.0	7.8	25.3	18.1
1984: IV	79.8	36.6	–.8	5.6	5.5	5.5	8.8	12.0	43.2	5.9	7.1	12.9	17.3
1985: IV	83.8	28.0	–1.2	4.0	4.0	2.5	7.8	10.9	55.8	8.5	3.6	25.5	18.2
1986: I	75.4	31.4	–1.0	5.4	4.0	4.3	7.1	11.5	44.0	10.7	7.9	8.0	17.5
II	80.5	33.8	.0	6.1	4.9	4.4	7.1	11.4	46.7	10.8	8.6	9.7	17.6
III	73.8	29.9	–1.0	5.3	2.3	1.6	7.5	14.2	43.9	11.3	10.1	3.3	19.3
IV	87.7	34.4	.0	4.9	2.0	2.8	8.6	16.2	53.3	12.0	11.4	7.0	22.9
1987: I	84.8	39.0	1.1	4.6	3.9	2.6	9.5	17.3	45.7	10.0	11.9	3.3	20.5
II	93.8	36.6	.2	4.1	2.7	5.3	9.6	14.7	57.2	12.2	12.3	12.0	20.7
III	107.0	40.9	1.9	7.2	4.6	5.5	5.6	16.2	66.1	14.0	14.4	14.7	22.9
IV	101.7	29.4	2.6	6.7	1.7	–.8	4.5	14.6	72.4	14.9	15.3	18.8	23.4
1988: I	110.6	33.9	3.2	8.0	3.3	1.2	4.2	14.0	76.8	15.9	19.1	17.4	24.5
II	114.5	41.5	5.1	7.5	5.5	4.1	4.6	14.7	73.0	17.5	18.6	14.8	22.1
III	111.4	39.0	5.2	5.4	5.9	4.4	5.8	12.4	72.3	15.9	18.4	16.8	21.2

Note.—The industry classification is on a company basis and is based on the 1972 Standard Industrial Classification (SIC) beginning 1948, and on the 1942 SIC prior to 1948.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–90.—*Sales, profits, and stockholders' equity, all manufacturing corporations, 1950–88*

[Billions of dollars]

Year or quarter	All manufacturing corporations				Durable goods industries				Nondurable goods industries			
	Sales (net)	Profits		Stockholders' equity[2]	Sales (net)	Profits		Stockholders' equity[2]	Sales (net)	Profits		Stockholders' equity[2]
		Before income taxes[1]	After income taxes			Before income taxes[1]	After income taxes			Before income taxes[1]	After income taxes	
1950	181.9	23.2	12.9	83.3	86.8	12.9	6.7	39.9	95.1	10.3	6.1	43.5
1951	245.0	27.4	11.9	98.3	116.8	15.4	6.1	47.2	128.1	12.1	5.7	51.1
1952	250.2	22.9	10.7	103.7	122.0	12.9	5.5	49.8	128.0	10.0	5.2	53.9
1953	265.9	24.4	11.3	108.2	137.9	14.0	5.8	52.4	128.0	10.4	5.5	55.7
1954	248.5	20.9	11.2	113.1	122.8	11.4	5.6	54.9	125.7	9.6	5.6	58.2
1955	278.4	28.6	15.1	120.1	142.1	16.5	8.1	58.8	136.3	12.1	7.0	61.3
1956	307.3	29.8	16.2	131.6	159.5	16.5	8.3	65.2	147.8	13.2	7.8	66.4
1957	320.0	28.2	15.4	141.1	166.0	15.8	7.9	70.5	154.1	12.4	7.5	70.6
1958	305.3	22.7	12.7	147.4	148.6	11.4	5.8	72.8	156.7	11.3	6.9	74.6
1959	338.0	29.7	16.3	157.1	169.4	15.8	8.1	77.9	168.5	13.9	8.3	79.2
1960	345.7	27.5	15.2	165.4	173.9	14.0	7.0	82.3	171.8	13.5	8.2	83.1
1961	356.4	27.5	15.3	172.6	175.2	13.6	6.9	84.9	181.2	13.9	8.5	87.7
1962	389.4	31.9	17.7	181.4	195.3	16.8	8.6	89.1	194.1	15.1	9.2	92.3
1963	412.7	34.9	19.5	189.7	209.0	18.5	9.5	93.3	203.6	16.4	10.0	96.3
1964	443.1	39.6	23.2	199.8	226.3	21.2	11.6	98.5	216.8	18.3	11.6	101.3
1965	492.2	46.5	27.5	211.7	257.0	26.2	14.5	105.4	235.2	20.3	13.0	106.3
1966	554.2	51.8	30.9	230.3	291.7	29.2	16.4	115.2	262.4	22.6	14.6	115.1
1967	575.4	47.8	29.0	247.6	300.6	25.7	14.6	125.0	274.8	22.0	14.4	122.6
1968	631.9	55.4	32.1	265.9	335.5	30.6	16.5	135.6	296.4	24.8	15.5	130.3
1969	694.6	58.1	33.2	289.9	366.5	31.5	16.9	147.6	328.1	26.6	16.4	142.3
1970	708.8	48.1	28.6	306.8	363.1	23.0	12.9	155.1	345.7	25.2	15.7	151.7
1971	751.1	52.9	31.0	320.8	381.8	26.5	14.5	160.4	369.3	26.5	16.5	160.5
1972	849.5	63.2	36.5	343.4	435.8	33.6	18.4	171.4	413.7	29.6	18.0	172.0
1973	1,017.2	81.4	48.1	374.1	527.3	43.6	24.8	188.7	489.9	37.8	23.3	185.4
1973: IV	275.1	21.4	13.0	386.4	140.1	10.8	6.3	194.7	135.0	10.6	6.7	191.7
New series:												
1973: IV	236.6	20.6	13.2	368.0	122.7	10.1	6.2	185.8	113.9	10.5	7.0	182.1
1974	1,060.6	92.1	58.7	395.0	529.0	41.1	24.7	196.0	531.6	51.0	34.1	199.0
1975	1,065.2	79.9	49.1	423.4	521.1	35.3	21.4	208.1	544.1	44.6	27.7	215.3
1976	1,203.2	104.9	64.5	462.7	589.6	50.7	30.8	224.3	613.7	54.3	33.7	238.4
1977	1,328.1	115.1	70.4	496.7	657.3	57.9	34.8	239.9	670.8	57.2	35.5	256.8
1978	1,496.4	132.5	81.1	540.5	760.7	69.6	41.8	262.6	735.7	62.9	39.3	277.9
1979	1,741.8	154.2	98.7	600.5	865.7	72.4	45.2	292.5	876.1	81.8	53.5	308.0
1980	1,912.8	145.8	92.6	668.1	889.1	57.4	35.6	317.7	1,023.7	88.4	56.9	350.4
1981	2,144.7	158.6	101.3	743.4	979.5	67.2	41.6	350.4	1,165.2	91.3	59.6	393.0
1982	2,039.4	108.2	70.9	770.2	913.1	34.7	21.7	355.5	1,126.4	73.6	49.3	414.7
1983	2,114.3	133.1	85.8	812.8	973.5	48.7	30.0	372.4	1,140.8	84.4	55.8	440.4
1984	2,335.0	165.6	107.6	864.2	1,107.6	75.5	48.9	395.6	1,227.5	90.0	58.8	468.5
1985	2,331.4	137.0	87.6	866.2	1,142.6	61.5	38.6	420.9	1,188.8	75.6	49.1	445.3
1986	2,220.9	129.3	83.1	874.7	1,125.5	52.1	32.6	436.3	1,095.4	77.2	50.5	438.4
1987	2,378.2	173.0	115.6	900.9	1,178.0	78.0	53.0	444.3	1,200.3	95.1	62.6	456.6
1986: I	544.0	31.0	19.4	863.7	270.7	12.9	7.8	431.7	273.3	18.1	11.6	432.0
II	566.2	38.7	26.7	876.9	289.4	17.5	11.8	436.2	276.8	21.2	14.9	440.8
III	546.3	30.6	18.4	880.2	275.4	11.5	6.6	440.8	270.9	19.1	11.7	439.4
IV	564.5	29.0	18.7	878.1	290.0	10.2	6.4	436.6	274.5	18.8	12.3	441.6
1987: I	556.8	38.1	24.7	885.7	279.1	16.8	10.6	434.7	277.7	21.2	14.2	451.0
II	596.1	47.5	31.5	894.1	296.9	22.4	14.8	445.2	299.2	25.1	16.7	448.9
III	597.7	49.3	33.3	911.0	290.0	20.5	14.3	447.1	307.6	28.8	19.0	463.9
IV	627.7	38.2	26.1	912.8	311.9	18.2	13.4	450.2	315.8	19.9	12.7	462.6
1988: I	611.8	51.0	36.9	932.9	300.4	21.2	15.4	459.4	311.4	29.8	21.5	473.5
II	653.0	58.4	41.5	948.5	325.9	26.3	19.3	467.4	327.2	32.1	22.2	481.1
III	645.6	53.7	38.2	959.0	315.8	21.9	15.7	471.3	329.8	31.8	22.5	487.7

[1] In the old series, "income taxes" refers to Federal income taxes only, as State and local income taxes had already been deducted. In the new series, no income taxes have been deducted.

[2] Annual data are average equity for the year (using four end-of-quarter figures).

Note.—Data are not necessarily comparable from one period to another due to changes in accounting procedures, industry classifications, sampling procedures, etc. For explanatory notes concerning compilation of the series, see "Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations," Department of Commerce, Bureau of the Census.

Source: Department of Commerce, Bureau of the Census.

TABLE B–91.—*Relation of profits after taxes to stockholders' equity and to sales, all manufacturing corporations, 1947–88*

Year or quarter	Ratio of profits after income taxes (annual rate) to stockholders' equity—percent [1]			Profits after income taxes per dollar of sales—cents		
	All manufacturing corporations	Durable goods industries	Nondurable goods industries	All manufacturing corporations	Durable goods industries	Nondurable goods industries
1947	15.6	14.4	16.6	6.7	6.7	6.7
1948	16.0	15.7	16.2	7.0	7.1	6.8
1949	11.6	12.1	11.2	5.8	6.4	5.4
1950	15.4	16.9	14.1	7.1	7.7	6.5
1951	12.1	13.0	11.2	4.9	5.3	4.5
1952	10.3	11.1	9.7	4.3	4.5	4.1
1953	10.5	11.1	9.9	4.3	4.2	4.3
1954	9.9	10.3	9.6	4.5	4.6	4.4
1955	12.6	13.8	11.4	5.4	5.7	5.1
1956	12.3	12.8	11.8	5.3	5.2	5.3
1957	10.9	11.3	10.6	4.8	4.8	4.9
1958	8.6	8.0	9.2	4.2	3.9	4.4
1959	10.4	10.4	10.4	4.8	4.8	4.9
1960	9.2	8.5	9.8	4.4	4.0	4.8
1961	8.9	8.1	9.6	4.3	3.9	4.7
1962	9.8	9.6	9.9	4.5	4.4	4.7
1963	10.3	10.1	10.4	4.7	4.5	4.9
1964	11.6	11.7	11.5	5.2	5.1	5.4
1965	13.0	13.8	12.2	5.6	5.7	5.5
1966	13.4	14.2	12.7	5.6	5.6	5.6
1967	11.7	11.7	11.8	5.0	4.8	5.3
1968	12.1	12.2	11.9	5.1	4.9	5.2
1969	11.5	11.4	11.5	4.8	4.6	5.0
1970	9.3	8.3	10.3	4.0	3.5	4.5
1971	9.7	9.0	10.3	4.1	3.8	4.5
1972	10.6	10.8	10.5	4.3	4.2	4.4
1973	12.8	13.1	12.6	4.7	4.7	4.8
1973: IV	13.4	12.9	14.0	4.7	4.5	5.0
New series:						
1973: IV	14.3	13.3	15.3	5.6	5.0	6.1
1974	14.9	12.6	17.1	5.5	4.7	6.4
1975	11.6	10.3	12.9	4.6	4.1	5.1
1976	13.9	13.7	14.2	5.4	5.2	5.5
1977	14.2	14.5	13.8	5.3	5.3	5.3
1978	15.0	16.0	14.2	5.4	5.5	5.3
1979	16.4	15.4	17.4	5.7	5.2	6.1
1980	13.9	11.2	16.3	4.8	4.0	5.6
1981	13.6	11.9	15.2	4.7	4.2	5.1
1982	9.2	6.1	11.9	3.5	2.4	4.4
1983	10.6	8.1	12.7	4.1	3.1	4.9
1984	12.5	12.4	12.5	4.6	4.4	4.8
1985	10.1	9.2	11.0	3.8	3.4	4.1
1986	9.5	7.5	11.5	3.7	2.9	4.6
1987	12.8	11.9	13.7	4.9	4.5	5.2
1986: I	9.0	7.2	10.8	3.6	2.9	4.2
II	12.2	10.8	13.5	4.7	4.1	5.4
III	8.4	6.0	10.7	3.4	2.4	4.3
IV	8.5	5.9	11.1	3.3	2.2	4.5
1987: I	11.2	9.7	12.6	4.4	3.8	5.1
II	14.1	13.3	14.9	5.3	5.0	5.6
III	14.6	12.8	16.3	5.6	4.9	6.2
IV	11.5	11.9	11.0	4.2	4.3	4.0
1988: I	15.8	13.5	18.1	6.0	5.1	6.9
II	17.5	16.5	18.4	6.3	5.9	6.8
III	16.0	13.3	18.5	5.9	5.0	6.8

[1] Annual ratios based on average equity for the year (using four end-of-quarter figures). Quarterly ratios based on equity at end of quarter only.

Note.—Based on data in millions of dollars.
See Note, Table B–90.

Source: Department of Commerce, Bureau of the Census.

TABLE B–92.—*Sources and uses of funds, nonfarm nonfinancial corporate business, 1946–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Sources											Uses			Discrepancy (sources less uses)
	Total	Internal					External					Total	Capital expenditures [2]	Increase in financial assets	
		Total	Domestic undistributed profits	Inventory valuation and capital consumption adjustments	Capital consumption allowances	Foreign earnings [1]	Total	Credit market funds			Other [3]				
								Total	Securities and mortgages	Loans and short-term paper					
1946	19.2	8.5	8.1	−7.6	7.4	0.7	10.6	6.9	3.6	3.4	3.7	17.5	18.8	−1.4	1.7
1947	27.5	13.3	12.1	−8.7	9.0	1.0	14.1	8.4	5.4	3.0	5.8	26.5	18.1	8.4	1.0
1948	29.4	19.7	13.2	−5.2	10.4	1.3	9.8	6.5	6.7	−.1	3.3	25.6	20.7	5.0	3.8
1949	20.5	20.0	8.7	−1.0	11.2	1.1	.5	3.1	4.9	−1.8	−2.7	18.4	14.9	3.5	2.1
1950	42.6	18.5	13.1	−7.9	12.0	1.3	24.0	8.1	4.2	4.0	15.9	40.4	24.0	16.4	2.2
1951	36.9	20.8	9.6	−4.4	13.8	1.7	16.1	10.4	6.4	4.0	5.7	37.9	30.6	7.4	−1.1
1952	30.2	22.5	7.8	−2.0	14.8	1.9	7.8	9.3	8.1	1.2	−1.5	30.0	25.4	4.6	.2
1953	28.6	22.3	8.0	−3.3	15.9	1.8	6.2	5.8	6.2	−.4	.5	28.5	26.2	2.3	.0
1954	29.8	24.4	7.6	−1.9	16.8	2.0	5.4	6.3	6.7	−.4	−.9	28.1	23.3	4.9	1.7
1955	53.4	29.9	11.8	−2.0	17.8	2.4	23.4	10.3	6.6	3.7	13.2	49.1	32.5	16.5	4.3
1956	45.1	30.1	10.9	−3.7	20.0	2.8	15.1	12.6	7.4	5.3	2.4	41.1	37.2	4.0	4.0
1957	43.5	32.0	9.6	−2.7	22.0	3.1	11.5	12.0	10.1	1.9	−.5	40.0	35.7	4.2	3.6
1958	42.2	30.7	6.5	−1.5	23.1	2.5	11.6	10.4	10.5	−.1	1.2	38.6	27.8	10.8	3.6
1959	56.6	36.4	10.6	−1.0	24.1	2.7	20.2	12.3	8.3	4.0	7.9	52.1	38.0	14.2	4.5
1960	48.2	35.9	8.0	−.4	25.1	3.1	12.4	11.3	7.4	3.9	1.0	41.8	37.8	3.9	6.4
1961	55.8	36.9	7.2	.6	25.9	3.3	18.9	12.0	10.5	1.5	6.9	50.7	36.5	14.2	5.1
1962	60.6	43.2	9.6	3.1	26.8	3.7	17.4	12.9	9.0	3.8	4.6	56.2	43.8	12.5	4.4
1963	68.5	47.0	11.0	3.9	28.0	4.1	21.6	12.0	8.1	3.8	9.6	60.3	44.6	15.7	8.3
1964	74.2	52.3	14.6	3.9	29.4	4.4	21.9	13.9	7.8	6.1	8.0	64.9	50.1	14.9	9.3
1965	92.7	59.1	19.1	3.9	31.5	4.7	33.6	18.8	7.0	11.8	14.7	83.4	61.6	21.8	9.3
1966	99.0	63.3	21.2	3.3	34.3	4.5	35.7	24.6	14.3	10.3	11.1	92.0	75.3	16.7	6.9
1967	94.9	64.2	18.1	3.9	37.6	4.6	30.7	27.5	19.2	8.3	3.2	87.6	71.2	16.4	7.3
1968	114.0	65.8	17.1	1.7	41.4	5.5	48.3	27.5	15.0	12.5	20.8	106.2	75.4	30.8	7.9
1969	116.0	65.2	13.4	.0	45.4	6.5	50.8	32.3	14.6	17.7	18.5	115.0	83.3	31.7	1.1
1970	101.8	62.8	7.6	−1.6	49.9	6.9	39.0	34.1	26.3	7.8	4.9	97.9	79.2	18.7	3.8
1971	127.4	74.7	12.7	−.5	54.8	7.6	52.7	37.4	32.8	4.5	15.4	121.8	85.1	36.7	5.6
1972	153.4	86.4	18.1	−1.2	60.1	9.3	67.0	42.4	26.4	16.0	24.6	145.1	95.0	50.1	8.3
1973	215.2	93.9	28.8	−14.7	65.2	14.5	121.3	76.3	44.4	31.9	45.0	189.7	119.0	70.7	25.5
1974	179.0	89.3	34.1	−38.1	76.3	17.0	89.7	54.9	21.4	33.5	34.8	191.1	138.6	52.5	−12.0
1975	155.3	124.8	36.4	−17.9	91.9	14.4	30.5	23.1	39.4	−16.3	7.4	153.4	112.3	41.1	1.9
1976	214.6	142.0	49.1	−25.4	102.3	16.0	72.6	50.7	42.4	8.3	21.9	210.4	156.9	53.5	4.2
1977	259.3	165.1	58.4	−26.0	114.3	18.3	94.2	69.4	44.6	24.8	24.7	242.2	179.6	62.6	17.1
1978	314.1	182.3	66.9	−36.6	129.8	22.2	131.9	70.9	37.6	33.2	61.0	324.7	217.0	107.7	−10.5
1979	326.0	197.6	71.5	−57.2	149.6	33.7	128.4	60.1	9.0	51.1	68.2	368.1	238.3	129.8	−42.1
1980	324.8	200.1	53.7	−59.2	171.3	34.4	124.7	70.7	34.5	36.2	54.0	342.1	243.7	98.4	−17.3
1981	375.8	239.5	50.2	−38.0	198.8	28.5	136.4	90.7	29.4	61.2	45.7	383.6	286.5	97.0	−7.7
1982	298.5	242.3	11.6	−18.7	221.4	28.1	56.2	49.8	10.3	39.5	6.4	303.5	256.5	47.0	−4.9
1983	420.3	285.7	22.2	5.1	228.2	30.2	134.6	77.9	52.6	25.3	56.8	385.8	270.7	115.1	34.5
1984	492.6	336.3	41.8	25.1	238.4	30.9	156.3	95.8	−5.1	100.9	60.5	502.7	370.6	132.1	−10.1
1985	459.2	352.3	16.7	53.5	251.0	31.1	106.9	50.9	5.0	46.0	55.9	435.3	342.3	93.0	23.9
1986	492.2	357.5	6.3	56.7	262.6	31.9	134.8	93.1	35.4	57.6	41.7	454.3	331.5	122.8	37.9
1987	474.1	352.8	16.0	25.7	274.7	36.4	121.3	59.8	29.4	30.3	61.5	436.6	361.0	75.6	37.5
1986:															
I	440.0	367.6	−.4	74.9	258.1	34.9	72.4	48.6	63.3	−14.7	23.8	431.4	360.5	70.9	8.6
II	473.1	355.2	4.3	61.1	261.3	28.6	117.8	62.8	35.1	27.7	55.1	442.4	333.9	108.5	30.6
III	453.7	358.0	7.3	54.9	263.8	32.0	95.7	72.6	27.8	44.8	23.1	424.6	315.5	109.1	29.1
IV	602.2	349.1	14.0	35.8	267.2	32.2	253.0	188.4	15.5	172.9	64.7	518.8	316.0	202.8	83.3
1987:															
I	421.7	346.8	13.1	29.6	269.6	34.5	74.9	14.2	75.2	−61.0	60.7	388.0	341.1	47.0	33.7
II	474.1	347.9	16.7	23.9	273.0	34.3	126.2	76.4	12.6	63.8	49.7	436.0	345.6	90.5	38.1
III	476.5	358.3	22.5	24.1	276.5	35.2	118.2	60.3	28.1	32.2	57.8	446.4	350.9	95.4	30.1
IV	524.0	358.1	11.8	25.0	279.8	41.5	165.9	88.1	1.7	86.4	77.8	476.0	406.3	69.7	48.1
1988:															
I	453.7	359.9	24.2	20.2	285.3	30.2	93.8	89.9	9.8	80.1	3.9	401.5	385.4	16.1	52.2
II	486.8	363.6	29.6	10.1	288.5	35.4	123.2	73.9	−3.6	77.5	49.3	440.0	385.1	54.9	46.7
III	471.2	359.7	27.0	5.7	291.8	35.2	111.5	59.1	1.6	57.5	52.4	461.4	394.6	66.8	9.9

[1] Foreign branch profits, dividends, and subsidiaries' earnings retained abroad.
[2] Consists of tax liabilities, trade debt, and direct foreign investment in the United States.
[3] Plant and equipment, residential structures, inventory investment, and mineral rights from U.S. Government.

Source: Board of Governors of the Federal Reserve System.

TABLE B–93.—*State and municipal and business securities offered, 1940–88*

[Millions of dollars]

Year or quarter	State and municipal securities offered for cash (principal amounts)	Business securities offered for cash [1]								
			Type of security			Industry of issuer				
		Total offerings	Common stock [2]	Preferred stock	Bonds and notes	Manufacturing [3]	Electric, gas, and water [4]	Transportation [5]	Communication	Other
1940	1,238	2,677	108	183	2,386	992	1,203	324	.....	159
1941	956	2,667	110	167	2,389	848	1,357	366	.....	96
1942	524	1,062	34	112	917	539	472	48	.....	4
1943	435	1,170	56	124	990	510	477	161	.....	21
1944	661	3,202	163	369	2,670	1,061	1,422	609	.....	109
1945	795	6,011	397	758	4,855	2,026	2,319	1,454	.....	211
1946	1,157	6,900	891	1,127	4,882	3,701	2,158	711	.....	329
1947	2,324	6,577	779	762	5,036	2,742	3,257	286	.....	291
1948	2,690	7,078	614	492	5,973	2,226	2,187	755	902	1,008
1949	2,907	6,052	736	425	4,890	1,414	2,320	800	571	946
1950	3,532	6,362	811	631	4,920	1,200	2,649	813	399	1,300
1951	3,189	7,741	1,212	838	5,691	3,122	2,455	494	612	1,058
1952	4,401	9,534	1,369	564	7,601	4,039	2,675	992	760	1,068
1953	5,558	8,898	1,326	489	7,083	2,254	3,029	595	882	2,138
1954	6,969	9,516	1,213	816	7,488	2,268	3,713	778	720	2,037
1955	5,977	10,240	2,185	635	7,420	2,994	2,464	893	1,132	2,757
1956	5,446	10,939	2,301	636	8,002	3,647	2,529	724	1,419	2,619
1957	6,958	12,884	2,516	411	9,957	4,234	3,938	824	1,462	2,426
1958	7,449	11,558	1,334	571	9,653	3,515	3,804	824	1,424	1,991
1959	7,681	9,748	2,027	531	7,190	2,073	3,258	967	717	2,733
1960	7,230	10,154	1,664	409	8,081	2,152	2,851	718	1,050	3,383
1961	8,360	13,165	3,294	450	9,420	4,077	3,032	694	1,834	3,527
1962	8,558	10,705	1,314	422	8,969	3,249	2,825	567	1,303	2,761
1963	10,107	12,211	1,011	343	10,856	3,514	2,677	957	1,105	3,957
1964	10,544	13,957	2,679	412	10,865	3,046	2,760	982	2,189	4,980
1965	11,148	14,782	1,473	724	12,585	5,414	2,934	702	945	4,787
1966	11,089	17,385	1,901	580	14,904	7,056	3,666	1,494	2,003	3,167
1967	14,288	24,014	1,927	881	21,206	11,069	4,935	1,639	1,975	4,396
1968	16,374	21,261	3,885	636	16,740	6,958	5,293	1,564	1,775	5,671
1969	11,460	25,997	7,640	691	17,666	6,346	6,715	1,779	2,172	8,985
1970	17,762	37,451	7,037	1,390	29,023	10,647	11,009	1,253	5,291	9,252
1971	24,370	43,229	9,485	3,683	30,061	11,651	11,721	1,148	5,840	12,867
1972	22,941	39,705	10,707	3,371	25,628	6,398	11,314	860	4,836	16,298
1973	22,953	31,680	7,642	3,341	20,700	4,832	10,269	811	4,872	10,897
1974	22,824	37,820	4,050	2,273	31,497	10,511	12,836	1,005	3,932	9,632
1975	29,326	53,632	7,414	3,459	42,759	18,652	15,893	3,637	4,466	10,983
1976	33,845	53,314	8,305	2,803	42,206	15,496	14,418	4,649	3,562	15,194
1977	45,060	54,229	8,047	3,916	42,266	13,757	13,704	3,218	4,443	19,113
1978 [6]	46,215	28,832	7,865	1,749	19,218	4,531	9,207	333	2,960	11,801
1979	42,261	36,117	9,106	2,068	24,943	6,766	10,133	848	4,486	13,884
1980	47,133	65,383	19,443	3,476	42,464	20,441	13,981	1,269	6,872	22,820
1981	46,134	64,500	25,505	1,697	37,298	14,708	13,075	1,433	5,871	29,413
1982	77,179	73,397	23,707	4,953	44,737	13,851	16,529	1,800	3,901	37,316
1983	83,348	103,355	45,335	7,953	50,067	23,096	12,949	4,007	5,577	57,726
1984	101,882	95,287	22,248	4,325	68,714	16,579	8,176	1,694	2,267	66,571
1985	203,954	133,460	36,718	7,013	89,729	26,753	10,049	4,036	4,153	88,469
1986	142,544	248,722	59,002	12,195	177,525	46,315	25,484	4,970	14,954	156,999
1987	98,673	268,770	65,836	11,595	191,339	46,172	19,943	6,698	7,326	188,631
1988: First three quarters	77,154	187,778	37,262	4,984	145,532	26,060	10,447	2,668	3,542	145,061
1987: I	30,156	77,362	16,120	4,610	56,632	16,162	6,265	2,874	914	51,147
II	25,291	65,491	19,608	2,452	43,431	11,455	4,813	1,373	1,787	46,063
III	20,402	68,865	14,924	2,112	51,829	9,586	4,190	1,596	1,692	51,801
IV	22,823	57,052	15,184	2,421	39,447	8,969	4,675	855	2,933	39,620
1988: I	23,613	65,800	13,244	2,128	50,428	6,834	3,735	1,350	548	53,333
II	26,668	68,412	10,545	1,226	56,641	10,111	4,996	1,246	1,227	50,832
III	26,853	53,566	13,473	1,630	38,463	9,115	1,716	72	1,767	40,896

[1] Business securities offered include securities offered by corporate and non-corporate business enterprises such as limited partnerships. Beginning 1978 excludes private placements.

[2] Common stock combines the conventional ownership shares of corporate business and securities issued by non-corporate business, *e.g.*, limited partnership interests, voting trust certificates, and condominium securities.

[3] Prior to 1948, also includes extractive, radio broadcasting, airline companies, commercial, and miscellaneous company issues.

[4] Prior to 1948, also includes telephone, street railway, and bus company issues.

[5] Prior to 1948, includes railroad issues only.

[6] Beginning 1978, business security offerings exclude private placements.

Note.—Covers substantially all new issues of State, municipal, and business securities offered for cash sale in the United States in amounts over $100,000 and with terms to maturity of more than 1 year; excludes notes issued exclusively to commercial banks, intercorporate transactions, and issues to be sold over an extended period, such as employee-purchase plans. Closed-end investment company issues are included beginning 1973.

Sources: Securities and Exchange Commission, "The Commercial and Financial Chronicle," and "The Bond Buyer."

TABLE B–94.—*Common stock prices and yields, 1949–88*

Year or month	Common stock prices[1]							Common stock yields (percent)[4]	
	New York Stock Exchange indexes (Dec. 31, 1965=50)[2]					Dow Jones industrial average[3]	Standard & Poor's composite index (1941–43=10)[4]	Dividend-price ratio[6]	Earnings-price ratio[7]
	Composite	Industrial	Transportation	Utility	Finance				
1949	9.02					179.48	15.23	6.59	15.48
1950	10.87					216.31	18.40	6.57	13.99
1951	13.08					257.64	22.34	6.13	11.82
1952	13.81					270.76	24.50	5.80	9.47
1953	13.67					275.97	24.73	5.80	10.26
1954	16.19					333.94	29.69	4.95	8.57
1955	21.54					442.72	40.49	4.08	7.95
1956	24.40					493.01	46.62	4.09	7.55
1957	23.67					475.71	44.38	4.35	7.89
1958	24.56					491.66	46.24	3.97	6.23
1959	30.73					632.12	57.38	3.23	5.78
1960	30.01					618.04	55.85	3.47	5.90
1961	35.37					691.55	66.27	2.98	4.62
1962	33.49					639.76	62.38	3.37	5.82
1963	37.51					714.81	69.87	3.17	5.50
1964	43.76					834.05	81.37	3.01	5.32
1965	47.39					910.88	88.17	3.00	5.59
1966	46.15	46.18	50.26	45.41	44.45	873.60	85.26	3.40	6.63
1967	50.77	51.97	53.51	45.43	49.82	879.12	91.93	3.20	5.73
1968	55.37	58.00	50.58	44.19	65.85	906.00	98.70	3.07	5.67
1969	54.67	57.44	46.96	42.80	70.49	876.72	97.84	3.24	6.08
1970	45.72	48.03	32.14	37.24	60.00	753.19	83.22	3.83	6.45
1971	54.22	57.92	44.35	39.53	70.38	884.76	98.29	3.14	5.41
1972	60.29	65.73	50.17	38.48	78.35	950.71	109.20	2.84	5.50
1973	57.42	63.08	37.74	37.69	70.12	923.88	107.43	3.06	7.12
1974	43.84	48.08	31.89	29.79	49.67	759.37	82.85	4.47	11.59
1975	45.73	50.52	31.10	31.50	47.14	802.49	86.16	4.31	9.15
1976	54.46	60.44	39.57	36.97	52.94	974.92	102.01	3.77	8.90
1977	53.69	57.86	41.09	40.92	55.25	894.63	98.20	4.62	10.79
1978	53.70	58.23	43.50	39.22	56.65	820.23	96.02	5.28	12.03
1979	58.32	64.76	47.34	38.20	61.42	844.40	103.01	5.47	13.46
1980	68.10	78.70	60.61	37.35	64.25	891.41	118.78	5.26	12.66
1981	74.02	85.44	72.61	38.91	73.52	932.92	128.05	5.20	11.96
1982	68.93	78.18	60.41	39.75	71.99	884.36	119.71	5.81	11.60
1983	92.63	107.45	89.36	47.00	95.34	1,190.34	160.41	4.40	8.03
1984	92.46	108.01	85.63	46.44	89.28	1,178.48	160.46	4.64	10.02
1985	108.09	123.79	104.11	56.75	114.21	1,328.23	186.84	4.25	8.12
1986	136.00	155.85	119.87	71.36	147.20	1,792.76	236.34	3.49	6.09
1987	161.70	195.31	140.39	74.30	146.48	2,275.99	286.83	3.08	5.48
1988 [p]	149.91	180.95	134.12	71.77	127.26	2,060.82	265.79	3.64	
1987: Jan.	151.17	175.60	126.61	78.54	153.32	2,065.13	264.51	3.17	
Feb	160.23	189.17	135.49	78.19	158.41	2,202.34	280.93	3.02	
Mar	166.43	198.95	138.55	77.15	162.41	2,292.61	292.47	2.93	5.18
Apr	163.88	199.03	137.91	72.74	150.52	2,302.64	289.32	2.99	
May	163.00	198.78	141.30	71.64	145.97	2,291.11	289.12	3.02	
June	169.58	206.61	150.39	74.25	152.73	2,384.02	301.38	2.92	4.74
July	174.28	214.12	157.48	74.18	152.25	2,481.72	310.09	2.83	
Aug.	184.18	226.49	164.02	78.20	160.94	2,655.01	329.36	2.69	
Sept.	178.39	219.52	158.58	76.13	154.08	2,570.80	318.66	2.78	4.93
Oct.	157.13	189.86	140.95	73.27	137.35	2,224.59	280.16	3.25	
Nov.	137.21	163.42	117.57	69.86	118.30	1,931.86	245.01	3.66	
Dec.	134.88	162.19	115.85	67.39	111.47	1,910.07	240.96	3.71	7.08
1988: Jan.	140.55	168.47	121.20	70.01	119.40	1,947.35	250.48	3.66	
Feb.	145.13	173.44	126.09	72.89	124.36	1,980.65	258.13	3.56	
Mar.	149.88	181.57	135.15	71.16	125.27	2,044.31	265.74	3.48	7.18
Apr.	148.46	180.88	133.43	69.40	121.67	2,036.13	262.61	3.57	
May	144.99	176.02	127.63	68.65	120.35	1,988.91	256.12	3.80	
June	152.72	184.92	136.02	72.25	129.04	2,104.94	270.68	3.58	7.92
July	152.12	184.09	136.49	71.50	129.99	2,104.22	269.05	3.65	
Aug.	149.25	179.72	132.53	70.67	130.77	2,051.29	263.73	3.75	
Sept.	151.47	182.18	136.27	71.83	133.15	2,080.06	267.97	3.69	
Oct.	156.36	188.58	141.93	74.19	134.66	2,144.31	277.40	3.61	
Nov.	152.67	183.79	138.60	73.83	129.61	2,099.04	271.02	3.70	
Dec. [p]	155.35	187.75	144.06	74.81	128.83	2,148.58	276.51	3.68	

[1] Averages of daily closing prices, except New York Stock Exchange data through May 1964 are averages of weekly closing prices.
[2] Includes all the stocks (more than 1,500) listed on the New York Stock Exchange.
[3] Includes 30 stocks.
[4] Includes 500 stocks.
[5] Standard & Poor's series, based on 500 stocks in the composite index.
[6] Aggregate cash dividends (based on latest known annual rate) divided by aggregate market value based on Wednesday closing prices. Monthly data are averages of weekly figures; annual data are averages of monthly figures.
[7] Quarterly data are ratio of earnings (after taxes) for 4 quarters ending with particular quarter to price index for last day of that quarter. Annual ratios are averages of quarterly ratios.

Note.—All data relate to stocks listed on the New York Stock Exchange.

Sources: New York Stock Exchange, Dow Jones & Co., Inc., and Standard & Poor's Corporatio

TABLE B–95.—*Business formation and business failures, 1945–88*

Year or month	Index of net business formation (1967 = 100)	New business incorporations (number)	Business failures [1]						
			Business failure rate [2]	Number of failures			Amount of current liabilities (millions of dollars)		
				Total	Liability size class		Total	Liability size class	
					Under $100,000	$100,000 and over		Under $100,000	$100,000 and over
1945			4.2	809	759	50	30.2	11.4	18.8
1946		132,916	5.2	1,129	1,003	126	67.3	15.7	51.6
1947		112,897	14.3	3,474	3,103	371	204.6	63.7	140.9
1948	101.1	96,346	20.4	5,250	4,853	397	234.6	93.9	140.7
1949	83.7	85,640	34.4	9,246	8,708	538	308.1	161.4	146.7
1950	87.7	93,092	34.3	9,162	8,746	416	248.3	151.2	97.1
1951	86.7	83,778	30.7	8,058	7,626	432	259.5	131.6	128.0
1952	90.8	92,946	28.7	7,611	7,081	530	283.3	131.9	151.4
1953	89.7	102,706	33.2	8,862	8,075	787	394.2	167.5	226.6
1954	88.8	117,411	42.0	11,086	10,226	860	462.6	211.4	251.2
1955	96.6	139,915	41.6	10,969	10,113	856	449.4	206.4	243.0
1956	94.6	141,163	48.0	12,686	11,615	1,071	562.7	239.8	322.9
1957	90.3	137,112	51.7	13,739	12,547	1,192	615.3	267.1	348.2
1958	90.2	150,781	55.9	14,964	13,499	1,465	728.3	297.6	430.7
1959	97.9	193,067	51.8	14,053	12,707	1,346	692.8	278.9	413.9
1960	94.5	182,713	57.0	15,445	13,650	1,795	938.6	327.2	611.4
1961	90.8	181,535	64.4	17,075	15,006	2,069	1,090.1	370.1	720.0
1962	92.6	182,057	60.8	15,782	13,772	2,010	1,213.6	346.5	867.1
1963	94.4	186,404	56.3	14,374	12,192	2,182	1,352.6	321.0	1,031.6
1964	98.2	197,724	53.2	13,501	11,346	2,155	1,329.2	313.6	1,015.6
1965	99.8	203,897	53.3	13,514	11,340	2,174	1,321.7	321.7	1,000.0
1966	99.3	200,010	51.6	13,061	10,833	2,228	1,385.7	321.5	1,064.1
1967	100.0	206,569	49.0	12,364	10,144	2,220	1,265.2	297.9	967.3
1968	108.3	233,635	38.6	9,636	7,829	1,807	941.0	241.1	699.9
1969	115.8	274,267	37.3	9,154	7,192	1,962	1,142.1	231.3	910.8
1970	108.8	264,209	43.8	10,748	8,019	2,729	1,887.8	269.3	1,618.4
1971	111.1	287,577	41.7	10,326	7,611	2,715	1,916.9	271.3	1,645.6
1972	119.3	316,601	38.3	9,566	7,040	2,526	2,000.2	258.8	1,741.5
1973	119.1	329,358	36.4	9,345	6,627	2,718	2,298.6	235.6	2,063.0
1974	113.2	319,149	38.4	9,915	6,733	3,182	3,053.1	256.9	2,796.3
1975	109.9	326,345	42.6	11,432	7,504	3,928	4,380.2	298.6	4,081.6
1976	120.4	375,766	34.8	9,628	6,176	3,452	3,011.3	257.8	2,753.4
1977	130.8	436,170	28.4	7,919	4,861	3,058	3,095.3	208.3	2,887.0
1978	138.1	478,019	23.9	6,619	3,712	2,907	2,656.0	164.7	2,491.3
1979	138.3	524,565	27.8	7,564	3,930	3,634	2,667.4	179.9	2,487.5
1980	129.9	533,520	42.1	11,742	5,682	6,060	4,635.1	272.5	4,362.6
1981	124.8	581,242	61.3	16,794	8,233	8,561	6,955.2	405.8	6,549.3
1982	116.4	566,942	89.0	24,908	11,509	13,399	15,610.8	541.7	15,069.1
1983	117.5	600,400	110.0	31,334	15,509	15,825	16,072.9	635.1	15,437.8
1984	121.3	634,991	107.0	52,078	19,618	32,460	29,268.6	409.8	28,858.8
1985	120.9	662,047	115.0	57,253	36,551	20,702	36,808.8	790.8	36,018.0
1986	120.4	702,738	120.0	61,616	38,908	22,708	44,724.0	838.3	43,885.7
1987	121.2	685,572	102.0	61,622	39,372	22,250	36,369.9	753.6	35,616.3
	Seasonally adjusted								
1987: Jan	118.1	55,071		5,287	3,234	2,053	3,220.7	64.7	3,156.0
Feb	120.5	58,868		5,402	3,381	2,021	3,586.0	69.2	3,516.8
Mar	122.0	60,248		6,143	3,854	2,289	3,249.5	74.3	3,175.2
Apr	120.7	57,802		5,784	3,590	2,194	3,222.5	68.1	3,154.4
May	119.8	56,579		5,369	3,329	2,040	2,488.5	61.2	2,427.3
June	120.3	57,558		5,321	3,404	1,917	3,332.4	61.8	3,270.6
July	120.4	57,500		5,147	3,338	1,809	2,036.1	62.7	1,973.5
Aug	121.5	57,773		4,675	3,046	1,629	1,968.2	57.0	1,911.2
Sept	122.8	57,746		4,666	3,093	1,573	2,967.2	62.0	2,905.2
Oct	121.8	55,559		5,300	3,519	1,781	3,133.1	68.0	3,065.1
Nov	122.8	55,909		4,086	2,663	1,423	1,649.3	51.2	1,598.1
Dec	123.2	54,539		4,442	2,921	1,521	5,516.3	53.4	5,462.9
1988: Jan	124.0	55,874		5,005	3,384	1,621	3,894.1	53.7	3,840.4
Feb	124.0	57,086		5,062	3,355	1,707	4,625.5	63.0	4,562.5
Mar	124.8	60,494		5,851	3,911	1,940	3,292.0	67.9	3,224.0
Apr	122.4	55,037		5,118	3,496	1,622	3,065.6	59.2	3,006.4
May	124.3	58,500		4,958	3,456	1,502	2,316.5	58.2	2,258.3
June	123.4	54,908		4,702	3,202	1,500	2,453.4	53.3	2,400.2
July	122.7	57,277		4,512	3,101	1,411	4,582.8	52.2	4,530.6
Aug	123.9	59,649		4,985	3,330	1,655	2,291.2	62.3	2,228.9
Sept	126.6	56,112		4,600	3,076	1,524	3,533.0	55.7	3,477.3
Oct	127.1	56,728		4,230	2,903	1,327	1,625.6	55.7	1,569.9
Nov	126.9			4,286	2,911	1,375	2,014.9	51.5	1,963.4

[1] Commercial and industrial failures only through 1983, excluding failures of banks, railroads, real estate, insurance, holding, and financial companies, steamship lines, travel agencies, etc.

Data for 1984–88 based on expanded coverage and new methodology and are therefore not generally comparable with earlier data. Data for 1988 are subject to revision due to amended court filings.

[2] Failure rate per 10,000 listed enterprises.

Sources: Department of Commerce (Bureau of Economic Analysis) and The Dun & Bradstreet Corporation.

TABLE B–96.—*Farm income, 1929–88*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Year or quarter	Income of farm operators from farming							
	Gross farm income					Production expenses	Net farm income	
	Total [1]	Cash marketing receipts			Value of inventory changes [2]		Current dollars	1982 dollars [3]
		Total	Livestock and products	Crops				
1929	13.8	11.3	6.2	5.1	−0.1	7.7	6.2	42.1
1933	6.9	5.3	2.8	2.5	−.2	4.4	2.6	22.8
1939	10.7	7.9	4.5	3.3	.1	6.3	4.4	34.8
1940	11.3	8.4	4.9	3.5	.3	6.9	4.5	34.5
1941	14.3	11.1	6.5	4.6	.4	7.8	6.5	47.0
1942	19.9	15.6	9.0	6.5	1.1	10.0	9.9	67.0
1943	23.3	19.6	11.5	8.1	−.1	11.6	11.7	77.7
1944	24.0	20.5	11.4	9.2	−.4	12.3	11.7	76.5
1945	25.4	21.7	12.0	9.7	−.4	13.1	12.3	78.4
1946	29.6	24.8	13.8	11.0	.0	14.5	15.1	77.7
1947	32.4	29.6	16.5	13.1	−1.8	17.0	15.4	68.5
1948	36.5	30.2	17.1	13.1	1.7	18.8	17.7	74.8
1949	30.8	27.8	15.4	12.4	−.9	18.0	12.8	54.4
1950	33.1	28.5	16.1	12.4	.8	19.5	13.6	57.1
1951	38.3	32.9	19.6	13.2	1.2	22.3	15.9	63.5
1952	37.8	32.5	18.2	14.3	.9	22.8	15.0	58.7
1953	34.4	31.0	16.9	14.1	−.6	21.5	13.0	50.1
1954	34.2	29.8	16.3	13.6	.5	21.8	12.4	47.0
1955	33.5	29.5	16.0	13.5	.2	22.2	11.3	41.6
1956	34.0	30.4	16.4	14.0	−.5	22.7	11.3	40.1
1957	34.8	29.7	17.4	12.3	.6	23.7	11.1	38.1
1958	39.0	33.5	19.2	14.2	.8	25.8	13.2	44.3
1959	37.9	33.6	18.9	14.7	.0	27.2	10.7	35.2
1960	38.6	34.0	19.0	15.0	.4	27.4	11.2	36.3
1961	40.5	35.2	19.5	15.7	.3	28.6	12.0	38.3
1962	42.3	36.5	20.2	16.3	.6	30.3	12.1	37.8
1963	43.4	37.5	20.0	17.4	.6	31.6	11.8	36.3
1964	42.3	37.3	19.9	17.4	−.8	31.8	10.5	31.9
1965	46.5	39.4	21.9	17.5	1.0	33.6	12.9	38.2
1966	50.5	43.4	25.0	18.4	−.1	36.5	14.0	39.9
1967	50.5	42.8	24.4	18.4	.7	38.2	12.3	34.4
1968	51.8	44.2	25.5	18.7	.1	39.5	12.3	32.7
1969	56.4	48.2	28.6	19.6	.1	42.1	14.3	35.9
1970	58.8	50.5	29.5	21.0	.0	44.5	14.4	34.2
1971	62.1	52.7	30.5	22.3	1.4	47.1	15.0	33.8
1972	71.1	61.1	35.6	25.5	.9	51.7	19.5	41.8
1973	98.9	86.9	45.8	41.1	3.4	64.6	34.4	69.4
1974	98.2	92.4	41.3	51.1	−1.6	71.0	27.3	50.5
1975	100.6	88.9	43.1	45.8	3.4	75.0	25.5	43.1
1976	102.9	95.4	46.3	49.0	−1.5	82.7	20.2	32.0
1977	108.8	96.2	47.6	48.6	1.1	88.9	19.9	29.5
1978	128.4	112.4	59.2	53.2	1.9	103.2	25.2	34.9
1979	150.7	131.5	69.2	62.3	5.0	123.3	27.4	34.9
1980	149.3	139.7	68.0	71.7	−6.3	133.1	16.1	18.8
1981	166.3	141.6	69.2	72.5	6.5	139.4	26.9	28.6
1982	163.5	142.6	70.3	72.3	−1.4	140.0	23.5	23.5
1983	153.1	136.6	69.4	67.1	−10.9	140.4	12.7	12.2
1984	174.9	142.4	73.0	69.5	6.3	142.7	32.2	29.9
1985	166.2	144.0	69.8	74.2	−2.4	134.0	32.3	29.1
1986	159.8	135.1	71.5	63.6	−2.8	122.3	37.5	32.9
1987	169.8	138.1	76.2	61.9	−.6	123.5	46.3	39.3
1986: I	150.4	134.9	68.0	66.9	−3.8	125.4	25.0	22.2
II	168.0	129.9	67.8	62.1	−3.3	122.2	45.9	40.4
III	158.1	137.8	77.3	60.5	−2.3	121.1	37.0	32.3
IV	162.6	137.7	73.0	64.7	−1.9	120.7	41.9	36.3
1987: I	173.6	134.9	73.3	61.6	−.3	120.3	53.4	45.9
II	162.5	134.4	77.0	57.4	.1	124.1	38.4	32.8
III	168.9	146.5	79.6	66.9	−.4	125.0	43.9	37.2
IV	173.7	136.6	75.1	61.5	−1.9	124.6	49.0	41.2
1988: I	176.4	145.3	78.2	67.1	−4.0	127.2	49.2	41.2
II	184.5	157.1	75.5	81.6	−5.4	129.8	54.7	45.3
III	158.1	151.7	85.4	66.3	−10.0	134.1	24.0	19.7

[1] Cash marketing receipts and inventory changes plus Government payments, other farm cash income, and nonmoney income furnished by farms.

[2] Physical changes in end-of-period inventory of crop and livestock commodities valued at average prices during the period.

[3] Income in current dollars divided by the GNP implicit price deflator (Department of Commerce).

Note.—Data include net Commodity Credit Corporation loans and operator households.

Source: Department of Agriculture, except as noted.

TABLE B–97.—*Farm output and productivity indexes, 1947–88*

[1977 = 100]

Year	Farm output						Productivity indicators		
		Crops [2]				Livestock and products [2]	Farm output		Crop production per acre [5]
	Total [1]	Total [3]	Feed grains	Food grains	Oil crops		Per unit of total input	Per hour of farm work [4]	
1947	58	56	39	64	22	65	55	18	57
1948	63	64	57	62	27	64	60	21	64
1949	62	61	50	53	26	67	57	20	60
1950	61	59	51	49	26	70	58	22	59
1951	63	60	47	49	26	73	60	24	59
1952	66	62	50	63	26	74	62	26	62
1953	66	62	49	57	26	74	64	28	62
1954	66	61	51	51	28	77	65	29	61
1955	69	63	54	48	30	79	66	30	63
1956	69	63	54	50	34	79	67	31	64
1957	67	62	58	47	33	78	67	33	65
1958	73	69	64	69	39	79	74	39	73
1959	74	68	66	55	36	83	73	39	72
1960	76	72	69	66	38	82	76	42	77
1961	76	70	62	60	43	86	78	44	78
1962	77	71	62	56	44	86	78	46	81
1963	80	74	68	59	46	89	82	51	83
1964	79	72	59	65	46	91	81	52	81
1965	82	76	70	67	53	89	84	56	85
1966	79	73	70	67	55	91	83	59	83
1967	83	77	79	76	56	94	85	64	86
1968	85	79	75	80	64	94	87	68	89
1969	85	80	78	74	65	95	88	72	91
1970	84	77	71	69	66	99	87	74	88
1971	92	86	92	81	68	100	95	85	96
1972	91	87	88	77	74	101	94	83	99
1973	93	92	91	86	87	99	95	86	99
1974	88	84	74	91	71	100	90	81	88
1975	95	93	91	108	86	95	99	90	96
1976	97	92	96	107	74	99	98	97	94
1977	100	100	100	100	100	100	100	100	100
1978	104	102	108	93	105	101	101	104	105
1979	111	113	116	108	129	104	105	113	113
1980	104	101	97	121	99	108	101	109	100
1981	118	117	121	144	114	109	116	123	115
1982	116	117	122	138	121	107	118	125	116
1983	96	88	67	117	91	109	99	99	100
1984	112	111	116	129	106	107	118	121	112
1985	118	118	134	121	117	110	128	139	120
1986	111	109	123	106	110	110	127	139	116
1987	110	106	105	106	106	113	127	142	122
1988 [p]	97	87	.....	.....	.....	116	.....	.....	.....

[1] Farm output measures the annual volume of net farm production available for eventual human use through sales from farms or consumption in farm households.

[2] Gross production.

[3] Includes items not included in groups shown.

[4] New survey-based labor productivity time series. Not comparable with data previously published.

[5] Computed from variable weights for individual crops produced each year.

Source: Department of Agriculture.

TABLE B–98.—*Farm input use, selected inputs, 1947–87*

Year	Farm population April [1]		Farm employment (thousands) [2]			Crops harvested (millions of acres) [4]	Selected indexes of input use (1977 = 100)					
	Number (thousands)	As percent of total population [2]	Total	Family workers	Hired workers		Total	Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals [5]	Feed, seed, and livestock purchases [6]
1947	25,829	17.9	10,382	8,115	2,267	355	104	297	106	54	15	51
1948	24,383	16.6	10,363	8,026	2,337	356	104	285	107	62	16	52
1949	24,194	16.2	9,964	7,712	2,252	360	108	285	108	68	18	56
1950	23,048	15.2	9,926	7,597	2,329	345	106	265	109	72	19	58
1951	21,890	14.2	9,546	7,310	2,236	344	106	251	109	77	21	62
1952	21,748	13.9	9,149	7,005	2,144	349	105	237	108	81	23	63
1953	19,874	12.5	8,864	6,775	2,089	348	103	220	108	82	24	63
1954	19,019	11.7	8,651	6,570	2,081	346	102	214	108	82	24	65
1955	19,078	11.5	8,381	6,345	2,036	340	104	220	108	83	26	66
1956	18,712	11.1	7,852	5,900	1,952	324	103	212	106	84	27	69
1957	17,656	10.3	7,600	5,660	1,940	324	100	196	105	83	27	68
1958	17,128	9.8	7,503	5,521	1,982	324	98	182	104	83	28	73
1959	16,592	9.3	7,342	5,390	1,952	324	101	183	105	84	32	77
1960	15,635	8.7	7,057	5,172	1,885	324	99	177	103	83	32	77
1961	14,803	8.1	6,919	5,029	1,890	302	98	167	103	80	35	81
1962	14,313	7.7	6,700	4,873	1,827	295	98	163	104	80	38	83
1963	13,367	7.1	6,518	4,738	1,780	298	98	155	104	79	43	83
1964	12,954	6.7	6,110	4,506	1,604	298	98	148	104	80	46	85
1965	12,363	6.4	5,610	4,128	1,482	298	97	144	103	80	49	86
1966	11,595	5.9	5,214	3,854	1,360	294	96	132	102	82	56	89
1967	10,875	5.5	4,903	3,650	1,253	306	98	128	104	85	66	92
1968	10,454	5.2	4,749	3,535	1,213	300	97	124	102	86	69	89
1969	10,307	5.1	4,596	3,419	1,176	290	96	118	102	86	73	93
1970	9,712	4.7	4,523	3,348	1,175	293	96	112	105	85	75	96
1971	9,425	4.5	4,436	3,275	1,161	305	97	108	103	87	81	102
1972	9,610	4.6	4,373	3,228	1,146	294	97	110	102	86	86	104
1973	9,472	4.5	4,337	3,169	1,168	321	98	109	100	90	90	107
1974	9,264	4.3	4,389	3,075	1,314	328	98	109	99	92	92	99
1975	8,864	4.1	4,342	3,026	1,317	336	97	106	97	96	83	93
1976	8,253	3.8	4,374	2,997	1,377	337	98	100	98	98	96	101
1977	[7] 6,194	[7] 2.8	4,155	2,859	1,296	345	100	100	100	100	100	100
1978	[7] 6,501	[7] 2.9	3,957	2,689	1,268	338	102	100	100	104	107	108
1979	[7] 6,241	[7] 2.8	3,774	2,501	1,273	348	105	99	103	104	123	115
1980	[7] 6,051	[7] 2.7	3,705	2,402	1,303	352	103	96	103	101	123	114
1981	[7] 5,790	[7] 2.5	[8] 3,552	[8] 2,267	[8] 1,285	366	102	96	104	98	129	108
1982	[7] 5,620	[7] 2.4	[8] 3,400	[8] 2,136	[8] 1,264	362	99	93	102	92	118	108
1983	[7] 5,787	[7] 2.5	[8] 3,247	[8] 2,007	[8] 1,240	306	97	97	101	88	105	110
1984	5,754	2.4	[8] 3,094	[8] 1,976	[8] 1,118	348	95	92	97	84	121	106
1985	5,355	2.2	2,941	1,904	1,037	342	92	85	95	80	123	106
1986	5,226	2.2	2,749	1,768	981	325	87	80	93	75	111	103
1987	4,986	2.0	2,734	1,742	992	302	86	78	92	72	111	108

[1] Farm population as defined by Department of Agriculture and Department of Commerce, i.e., civilian population living on farms in rural areas, regardless of occupation. See also footnote 7.

[2] Total population of United States including Armed Forces overseas, as of July 1.

[3] Includes persons doing farmwork on all farms. These data, published by the Department of Agriculture, differ from those on agricultural employment by the Department of Labor (see Table B–32) because of differences in the method of approach, in concepts of employment, and in time of month for which the data are collected.

[4] Acreage harvested plus acreages in fruits, tree nuts, and farm gardens.

[5] Fertilizer, lime, and pesticides.

[6] Nonfarm constant dollar value of feed, seed, and livestock purchases.

[7] Based on new definition of a farm. Under old definition of a farm, farm population (in thousands and as percent of total population) for 1977, 1978, 1979, 1980, 1981, 1982, and 1983 is 7,806 and 3.6; 8,005 and 3.6; 7,553 and 3.4; 7,241 and 3.2; 6,942 and 3.0; 6,870 and 3.0; 7,029 and 3.0, respectively.

[8] Basis for farm employment series was discontinued for 1981 through 1984. Employment is estimated for these years.

Note.—Population includes Alaska and Hawaii beginning 1960.

Sources: Department of Agriculture and Department of Commerce (Bureau of the Census).

TABLE B–99.—*Indexes of prices received and prices paid by farmers, 1948–88*

[1977=100]

Year or month	Prices received by farmers			Prices paid by farmers						Addendum: Average farm real estate value per acre[3]
	All farm products	Crops	Livestock and products	All commodities, services, interest, taxes, and wage rates[1]	Production items				Wage rates	
					Total[2]	Tractors and self-propelled machinery	Fertilizer	Fuels and energy		
1948	63	59	65	38	43		55		23	14
1949	55	52	56	36	41		56		22	14
1950	56	54	58	37	42		54		22	14
1951	66	61	70	41	47		57		25	16
1952	63	62	64	42	47		59		26	18
1953	56	55	56	40	44		59		27	18
1954	54	56	52	40	44		59		27	18
1955	51	53	49	40	43		58		27	19
1956	50	54	47	40	43		57		28	19
1957	51	52	51	42	44		58		29	21
1958	55	52	57	43	46		58		30	22
1959	53	51	53	43	46		57		32	23
1960	52	51	53	44	46		57		33	24
1961	53	52	52	44	46		58		33	25
1962	53	54	53	45	47		58		34	26
1963	53	55	51	45	47		57		35	27
1964	52	55	49	45	47		57		36	29
1965	54	53	54	47	48	39	57	49	38	31
1966	58	55	60	49	50	40	56	49	41	33
1967	55	52	57	49	50	42	55	50	44	35
1968	56	52	60	51	50	44	52	50	48	38
1969	59	50	67	53	52	47	48	51	53	40
1970	60	52	67	55	54	49	48	52	57	42
1971	62	56	67	58	57	51	50	53	59	43
1972	69	60	77	62	61	54	52	54	63	47
1973	98	91	104	71	73	58	56	57	69	53
1974	105	117	94	81	83	68	92	79	79	66
1975	101	105	98	89	91	82	120	88	85	75
1976	102	102	101	95	97	91	102	93	93	86
1977	100	100	100	100	100	100	100	100	100	100
1978	115	105	124	108	108	109	100	105	107	109
1979	132	116	147	123	125	122	108	137	117	125
1980	134	125	144	138	138	136	134	188	127	145
1981	139	134	143	150	148	152	144	213	138	158
1982	133	121	145	159	153	165	144	210	144	157
1983	135	128	141	161	152	174	137	202	148	148
1984	142	138	146	165	155	181	143	201	151	146
1985	128	120	136	163	151	178	135	201	154	128
1986	123	107	138	159	144	174	124	162	160	112
1987	127	106	146	162	147	174	118	161	166	103
1988	138	125	150	170	157	181	130	163	172	106
1987: Jan	121	100	141	158	142	172	116	153	159	
Feb	122	99	144							103
Mar	122	100	142							
Apr	125	102	147	162	147	174	117	159	171	
May	129	108	148							
June	130	109	149							
July	129	108	148	164	148	174	117	165	173	
Aug	127	102	150							
Sept	129	105	152							
Oct	127	106	147	165	150	176	121	168	162	
Nov	132	120	143							
Dec	127	112	141							
1988: Jan	131	115	147	165	152	176	121	161	162	
Feb	130	109	149							106
Mar	130	110	148							
Apr	130	111	148	168	155	179	132	163	174	
May	134	117	151							
June	137	127	147							
July	141	133	147	172	160	179	132	166	179	
Aug	144	135	152							
Sept	144	135	153							
Oct	143	133	152	174	162	188	134	162	171	
Nov	144	136	151							
Dec	145	136	154							

[1] Includes items used for family living, not shown separately.
[2] Includes other items not shown separately.
[3] Average for 48 States. Annual data are for March 1 of each year through 1975, February 1 for 1976–81, April 1 for 1982–85, and February 1 for 1986–88.

Source: Department of Agriculture.

TABLE B–100.—*U.S. exports and imports of agricultural commodities, 1940–88*

[Billions of dollars]

Year	Exports							Imports					Agricultural trade balance
	Total [1]	Feed grains	Food grains [2]	Oilseeds and products	Cotton	Tobacco	Animals and products	Total [1]	Crops, fruits, and vegetables [3]	Animals and products	Coffee	Cocoa beans and products	
1940	0.5	(4)	(4)	(4)	0.2	(4)	0.1	1.3	(4)	0.2	0.1	(4)	−0.8
1941	.7	(4)	0.1	(4)	.1	0.1	.3	1.7	0.1	.3	.2	(4)	−1.0
1942	1.2	(4)	(4)	(4)	.1	.1	.8	1.3	(4)	.5	.2	(4)	−.1
1943	2.1	(4)	.1	0.1	.2	.2	1.2	1.5	.1	.4	.3	(4)	.6
1944	2.1	(4)	.1	.1	.1	.1	1.3	1.8	.1	.3	.3	(4)	.3
1945	2.3	(4)	.4	(4)	.3	.2	.9	1.7	.1	.4	.3	(4)	.5
1946	3.1	0.1	.7	(4)	.5	.4	.9	2.3	.2	.4	.5	0.1	.8
1947	4.0	.4	1.4	.1	.4	.3	.7	2.8	.1	.4	.6	.2	1.2
1948	3.5	.1	1.5	.2	.5	.2	.5	3.1	.2	.6	.7	.2	.3
1949	3.6	.3	1.1	.3	.9	.3	.4	2.9	.2	.4	.8	.1	.7
1950	2.9	.2	.6	.2	1.0	.3	.3	4.0	.2	.7	1.1	.2	−1.1
1951	4.0	.3	1.1	.3	1.1	.3	.5	5.2	.2	1.1	1.4	.2	−1.1
1952	3.4	.3	1.1	.2	.9	.2	.3	4.5	.2	.7	1.4	.2	−1.1
1953	2.8	.3	.7	.2	.5	.3	.4	4.2	.2	.6	1.5	.2	−1.3
1954	3.1	.2	.5	.3	.8	.3	.5	4.0	.2	.5	1.5	.3	−.9
1955	3.2	.3	.6	.4	.5	.4	.6	4.0	.2	.5	1.4	.2	−.8
1956	4.2	.4	1.0	.5	.7	.3	.7	4.0	.2	.4	1.4	.2	.2
1957	4.5	.3	1.0	.5	1.0	.4	.7	4.0	.2	.5	1.4	.2	.5
1958	3.9	.5	.8	.4	.7	.4	.5	3.9	.2	.7	1.2	.2	(4)
1959	4.0	.6	.9	.6	.4	.3	.6	4.1	.2	.8	1.1	.2	−.1
1960	4.8	.5	1.2	.6	1.0	.4	.6	3.8	.2	.6	1.0	.2	1.0
1961	5.0	.5	1.4	.6	.9	.4	.6	3.7	.2	.7	1.0	.2	1.3
1962	5.0	.8	1.3	.7	.5	.4	.6	3.9	.2	.9	1.0	.2	1.2
1963	5.6	.8	1.5	.8	.6	.4	.7	4.0	.3	.9	1.0	.2	1.6
1964	6.3	.9	1.7	1.0	.7	.4	.8	4.1	.3	.8	1.2	.2	2.3
1965	6.2	1.1	1.4	1.2	.5	.4	.8	4.1	.3	.9	1.1	.1	2.1
1966	6.9	1.3	1.8	1.2	.4	.5	.7	4.5	.4	1.2	1.1	.1	2.4
1967	6.4	1.1	1.5	1.3	.5	.5	.7	4.5	.4	1.1	1.0	.2	1.9
1968	6.3	.9	1.4	1.3	.5	.5	.7	5.0	.5	1.3	1.2	.2	1.3
1969	6.0	.9	1.2	1.3	.3	.6	.8	5.0	.5	1.4	.9	.2	1.1
1970	7.3	1.1	1.4	1.9	.4	.5	.9	5.8	.5	1.6	1.2	.3	1.5
1971	7.7	1.0	1.3	2.2	.6	.5	1.0	5.8	.6	1.5	1.2	.2	1.9
1972	9.4	1.5	1.8	2.4	.5	.7	1.1	6.5	.7	1.8	1.3	.2	2.9
1973	17.7	3.5	4.7	4.3	.9	.7	1.6	8.4	.8	2.6	1.7	.3	9.3
1974	21.9	4.6	5.4	5.7	1.3	.8	1.8	10.2	.8	2.2	1.6	.5	11.7
1975	21.9	5.2	6.2	4.5	1.0	.9	1.7	9.3	.8	1.8	1.7	.5	12.6
1976	23.0	6.0	4.7	5.1	1.0	.9	2.4	11.0	.9	2.3	2.9	.6	12.0
1977	23.6	4.9	3.6	6.6	1.5	1.1	2.7	13.4	1.2	2.3	4.2	1.0	10.2
1978	29.4	5.9	5.5	8.2	1.7	1.4	3.0	14.8	1.5	3.1	4.0	1.4	14.6
1979	34.7	7.7	6.3	8.9	2.2	1.2	3.8	16.7	1.7	3.9	4.2	1.2	18.0
1980	41.2	9.8	7.9	9.4	2.9	1.3	3.8	17.4	1.6	3.8	4.2	.9	23.9
1981	43.3	9.4	9.6	9.6	2.3	1.5	4.2	16.8	2.0	3.5	2.9	.9	26.6
1982	36.6	6.4	7.9	9.1	2.0	1.5	3.9	15.4	2.3	3.7	2.9	.7	21.2
1983	36.1	7.3	7.4	8.7	1.8	1.5	3.8	16.6	2.3	3.8	2.8	.8	19.5
1984	37.8	8.1	7.5	8.4	2.4	1.5	4.2	19.3	3.1	4.1	3.3	1.1	18.5
1985	29.0	6.0	4.5	5.8	1.6	1.5	4.1	20.0	3.5	4.2	3.3	1.4	9.1
1986	26.2	3.1	3.8	6.5	.8	1.2	4.5	21.4	3.6	4.5	4.6	1.1	4.8
1987	28.6	3.9	3.8	6.4	1.6	1.1	5.2	20.4	3.6	4.9	2.9	1.2	8.2
Jan–Oct:													
1987	22.9	3.2	3.2	5.0	1.2	.8	4.2	17.0	3.0	4.1	2.6	.9	5.9
1988	30.1	4.7	4.9	6.2	1.6	1.0	5.2	17.5	3.1	4.4	2.1	.9	12.6

[1] Total includes items not shown separately.
[2] Rice, wheat, and wheat flour.
[3] Includes nuts, fruits, and vegetable preparations.
[4] Less than $50 million.

Note.—Data derived from official estimates released by the Bureau of the Census, Department of Commerce. Agricultural commodities are defined as (1) nonmarine food products and (2) other products of agriculture which have not passed through complex processes of manufacture. Export value, at U.S. port of exportation, is based on the selling price and includes inland freight, insurance, and other charges to the port. Import value, defined generally as the market value in the foreign country, excludes import duties, ocean freight, and marine insurance.

Source: Department of Agriculture.

TABLE B–101.—*Balance sheet of the farm sector, 1939–88*

[Billions of dollars]

End of year	Assets									Claims			
				Other physical assets			Financial assets						
	Total	Real estate	Livestock [1]	Machinery and motor vehicles	Crops [2]	Household equipment and furnishings	Deposits and currency	U.S. savings bonds	Investments in cooperatives	Total	Real estate debt [3]	Nonreal estate debt [4]	Proprietors' equities
1939	52.6	33.6	5.1	3.1	2.2	4.2	3.2	0.3	0.8	52.6	6.6	3.0	43.0
1940	53.7	34.0	5.3	3.3	2.3	4.1	3.5	.4	.9	53.7	6.5	3.3	43.8
1941	61.4	36.6	7.1	4.0	3.2	4.8	4.2	.5	.9	61.4	6.4	3.5	51.5
1942	72.9	41.5	9.6	4.9	4.3	4.8	5.4	1.1	1.0	72.9	6.0	3.2	63.7
1943	82.9	47.7	9.7	5.4	5.5	4.7	6.6	2.2	1.1	82.9	5.4	2.9	74.5
1944	92.1	52.9	9.0	6.5	6.0	5.2	7.9	3.4	1.2	92.1	4.9	2.7	84.4
1945	102.0	60.5	9.7	5.4	6.0	5.5	9.4	4.2	1.4	102.0	4.8	2.9	94.4
1946	116.1	68.7	11.9	5.3	7.0	7.2	10.2	4.2	1.5	116.1	4.9	3.5	107.8
1947	127.1	73.5	13.3	7.4	8.9	8.1	9.9	4.4	1.7	127.1	5.1	4.1	118.0
1948	132.9	76.0	14.4	10.1	7.4	8.9	9.6	4.6	1.9	132.9	5.3	4.9	122.7
1949	130.3	75.1	12.9	12.2	5.9	8.4	9.1	4.7	2.1	130.3	5.6	5.2	119.5
1950	152.9	88.9	17.1	14.1	7.1	9.6	9.1	4.7	2.3	152.9	6.1	6.1	140.7
1951	169.8	98.7	19.5	16.7	8.2	10.1	9.4	4.7	2.5	169.8	6.7	7.4	155.7
1952	166.3	100.0	14.8	17.4	7.9	9.5	9.4	4.6	2.7	166.3	7.3	7.7	151.4
1953	162.3	98.9	11.7	18.4	6.8	9.5	9.4	4.7	2.9	162.3	7.8	6.8	147.8
1954	167.0	102.5	11.2	18.7	7.5	9.7	9.4	5.0	3.0	167.0	8.3	7.2	151.5
1955	172.5	108.2	10.6	19.3	6.5	10.0	9.5	5.2	3.2	172.5	9.0	7.9	155.6
1956	181.6	116.1	11.0	20.2	6.8	9.6	9.4	5.1	3.5	181.6	9.9	8.0	163.8
1957	191.0	122.7	13.9	20.1	6.4	9.6	9.5	5.1	3.7	191.0	10.4	8.8	171.8
1958	206.4	131.5	17.7	21.8	6.9	9.4	10.0	5.2	3.9	206.4	11.1	10.1	185.2
1959	210.2	138.4	15.2	22.7	6.6	9.2	9.2	4.7	4.2	210.2	12.1	11.5	186.6
1960	210.9	139.9	15.6	22.2	6.7	8.7	8.7	4.6	4.5	210.9	12.9	12.0	186.1
1961	218.9	146.0	16.4	22.5	7.0	8.9	8.8	4.5	4.8	218.9	14.0	12.7	192.2
1962	226.2	150.7	17.3	23.5	7.3	8.8	9.2	4.4	5.0	226.2	15.2	14.2	196.8
1963	234.3	158.9	15.9	23.9	7.9	8.8	9.2	4.2	5.4	234.3	16.9	15.6	201.8
1964	243.3	168.5	14.5	24.8	7.7	8.4	9.6	4.2	5.6	243.3	18.9	16.4	208.0
1965	260.3	180.1	17.6	26.0	8.3	8.4	10.0	4.1	5.9	260.3	21.2	18.1	221.0
1966	274.2	190.2	19.0	27.4	8.9	8.3	10.3	3.9	6.2	274.2	23.1	19.8	231.3
1967	288.0	201.1	18.8	29.8	8.3	8.8	10.9	3.8	6.5	288.0	25.2	20.8	242.0
1968	301.9	210.8	20.2	31.3	8.1	9.4	11.5	3.8	6.8	301.9	27.5	20.4	253.9
1969	312.9	217.1	23.5	32.3	8.4	9.6	11.9	3.7	6.4	312.9	29.4	21.2	262.4
1970	324.0	223.8	23.7	34.4	9.0	10.0	12.4	3.6	7.2	324.0	30.5	22.3	271.2
1971	349.4	240.2	27.3	36.6	9.8	10.8	13.2	3.7	7.9	349.4	32.4	25.1	291.9
1972	393.7	268.6	34.1	39.3	13.0	11.9	14.0	4.0	8.9	393.7	35.4	28.0	330.4
1973	477.7	328.6	42.4	44.2	21.4	12.3	14.9	4.2	9.9	477.7	39.8	33.1	404.9
1974 [5]	509.0	368.7	24.5	53.6	23.0	11.2	14.0	3.8	10.2	509.0	44.9	36.7	427.4
1975	576.1	420.6	29.4	63.1	21.1	11.7	14.5	3.9	11.9	576.1	49.9	41.6	484.6
1976	664.0	499.6	29.0	70.1	21.2	12.1	14.8	3.8	13.2	664.0	55.4	47.8	560.8
1977	731.4	556.4	31.9	76.4	20.6	13.8	15.2	3.9	13.3	731.4	63.9	55.0	612.5
1978	867.7	656.1	51.3	83.3	25.3	16.0	15.5	4.2	15.9	867.7	72.8	63.8	731.2
1979	1,006.9	768.0	61.4	93.2	29.2	17.2	15.9	4.0	18.0	1,006.9	86.8	75.7	844.4
1980	1,102.3	850.8	60.6	99.3	33.0	19.4	16.2	3.8	19.2	1,102.3	97.5	81.2	923.6
1981	1,103.7	851.7	53.5	107.8	29.1	20.8	16.7	3.6	20.4	1,103.7	107.2	88.2	908.2
1982	1,066.6	812.2	53.0	107.9	27.9	23.0	17.4	3.5	21.8	1,066.6	111.3	91.8	863.5
1983	1,051.0	801.8	49.7	106.2	23.9	24.4	18.2	3.6	23.2	1,051.0	113.7	92.7	844.6
1984	949.7	693.7	49.6	102.7	29.6	26.1	19.8	3.7	24.4	949.7	112.4	92.0	745.2
1985	845.4	606.4	46.3	92.4	23.5	27.8	21.1	3.9	24.0	845.4	105.9	82.2	657.3
1986	789.4	554.0	47.6	84.4	19.1	30.5	24.8	4.5	24.4	789.4	95.8	71.0	622.6
1987	813.1	567.2	57.6	78.6	20.5	33.3	25.4	5.0	24.5	813.1	87.4	65.9	659.8
1988 [p]	850.0	599.0	61.0	79.0	18.0	35.0	27.0	5.0	26.0	850.0	83.0	67.0	700.0

[1] Beginning with 1959, horses and mules are excluded.
[2] Non-Commodity Credit Corporation (CCC) crops held on farms plus value above loan rate for crops held under CCC.
[3] Includes CCC storage and drying facilities loans.
[4] Does not include CCC crop loans.
[5] Beginning 1974, data are for farms included in the new farm definition, that is, places with sales of $1,000 or more annually.

Note.—Data include operator households.
Beginning 1959, data include Alaska and Hawaii.

Source: Department of Agriculture.

TABLE B–102.—*U.S. international transactions, 1946–88*

[Millions of dollars; quarterly data seasonally adjusted, except as noted. Credits (+), debits (−)]

Year or quarter	Merchandise [1] [2]			Investment income [3]			Net military transactions	Net travel and transportation receipts	Other services, net [3]	Balance on goods and services [4]	Remittances, pensions, and other unilateral transfers [1]	Balance on current account [4]
	Exports	Imports	Net	Receipts	Payments	Net						
1946	11,764	−5,067	6,697	772	−212	560	−493	733	310	7,807	−2,922	4,885
1947	16,097	−5,973	10,124	1,102	−245	857	−455	946	145	11,617	−2,625	8,992
1948	13,265	−7,557	5,708	1,921	−437	1,484	−799	374	175	6,942	−4,525	2,417
1949	12,213	−6,874	5,339	1,831	−476	1,355	−621	230	208	6,511	−5,638	873
1950	10,203	−9,081	1,122	2,068	−559	1,509	−576	−120	242	2,177	−4,017	−1,840
1951	14,243	−11,176	3,067	2,633	−583	2,050	−1,270	298	254	4,399	−3,515	884
1952	13,449	−10,838	2,611	2,751	−555	2,196	−2,054	83	309	3,145	−2,531	614
1953	12,412	−10,975	1,437	2,736	−624	2,112	−2,423	−238	307	1,195	−2,481	−1,286
1954	12,929	−10,353	2,576	2,929	−582	2,347	−2,460	−269	305	2,499	−2,280	219
1955	14,424	−11,527	2,897	3,406	−676	2,730	−2,701	−297	299	2,928	−2,498	430
1956	17,556	−12,803	4,753	3,837	−735	3,102	−2,788	−361	447	5,153	−2,423	2,730
1957	19,562	−13,291	6,271	4,180	−796	3,384	−2,841	−189	482	7,107	−2,345	4,762
1958	16,414	−12,952	3,462	3,790	−825	2,965	−3,135	−633	486	3,145	−2,361	784
1959	16,458	−15,310	1,148	4,132	−1,061	3,071	−2,805	−821	573	1,166	−2,448	−1,282
1960	19,650	−14,758	4,892	4,616	−1,237	3,379	−2,752	−964	638	5,191	−2,367	2,824
1961	20,108	−14,537	5,571	4,999	−1,245	3,754	−2,596	−978	732	6,484	−2,662	3,822
1962	20,781	−16,260	4 521	5,618	−1,324	4,294	−2,449	−1,152	911	6,127	−2,740	3,387
1963	22,272	−17,048	5,224	6,157	−1,561	4,596	−2,304	−1,309	1,037	7,244	−2,831	4,414
1964	25,501	−18,700	6,801	6,824	−1,784	5,040	−2,133	−1,146	1,161	9,724	−2,901	6,823
1965	26,461	−21,510	4,951	7,437	−2,088	5,349	−2,122	−1,280	1,480	8,378	−2,948	5,431
1966	29,310	−25,493	3,817	7,528	−2,481	5,047	−2,935	−1,331	1,496	6,095	−3,064	3,031
1967	30,666	−26,866	3,800	8,020	−2,747	5,273	−3,226	−1,750	1,742	5,838	−3,255	2,583
1968	33,626	−32,991	635	9,368	−3,378	5,990	−3,143	−1,548	1,759	3,693	−3,082	611
1969	36,414	−35,807	607	10,912	−4,869	6,043	−3,328	−1,763	1,964	3,524	−3,125	399
1970	42,469	−39,866	2,603	11,747	−5,516	6,231	−3,354	−2,038	2,329	5,773	−3,443	2,331
1971	43,319	−45,579	−2,260	12,707	−5,436	7,271	−2,893	−2,345	2,649	2,423	−3,856	−1,433
1972	49,381	−55,797	−6,416	14,764	−6,572	8,192	−3,420	−3,063	2,965	−1,742	−4,052	−5,795
1973	71,410	−70,499	911	21,808	−9,655	12,153	−2,070	−3,158	3,406	11,244	−4,103	7,140
1974	98,306	−103,811	−5,505	27,587	−12,084	15,503	−1,653	−3,184	4,231	9,392	[5] −7,431	1,962
1975	107,088	−98,185	8,903	25,351	−12,564	12,787	−746	−2,812	4,853	22,984	−4,868	18,116
1976	114,745	−124,228	−9,483	29,286	−13,311	15,975	559	−2,558	5,027	9,521	−5,314	4,207
1977	120,816	−151,907	−31,091	32,179	−14,217	17,962	1,528	−3,565	5,679	−9,488	−5,023	−14,511
1978	142,054	−176,001	−33,947	42,245	−21,680	20,565	621	−3,573	6,459	−9,875	−5,552	−15,427
1979	184,473	−212,009	−27,536	64,132	−32,960	31,172	−1,778	−2,935	6,214	5,138	−6,128	−991
1980	224,269	−249,749	−25,480	72,506	−42,120	30,386	−2,237	−997	7,793	9,466	−7,593	1,873
1981	237,085	−265,063	−27,978	86,411	−52,329	34,082	−1,183	144	9,278	14,344	−7,460	6,884
1982	211,198	−247,642	−36,444	83,549	−54,883	28,666	−274	−992	9,320	278	−8,956	−8,679
1983	201,820	−268,900	−67,080	77,251	−52,376	24,875	−243	−4,227	9,908	−36,766	−9,480	−46,246
1984	219,900	−332,422	−112,522	85,908	−67,419	18,489	−2,099	−8,604	9,760	−94,975	−12,102	−107,077
1985	215,935	−338,083	−122,148	88,837	−62,901	25,936	−3,431	−10,049	9,600	−100,093	−15,010	−115,103
1986	223,969	−368,516	−144,547	90,110	−66,968	23,142	−4,372	−9,344	11,600	−123,520	−15,308	−138,828
1987	249,570	−409,850	−160,280	103,756	−83,381	20,375	−2,368	−10,281	12,035	−140,519	−13,445	−153,964
1986:												
I	54,113	−89,546	−35,433	24,352	−17,357	6,995	−1,408	−2,456	2,817	−29,485	−2,972	−32,457
II	56,946	−90,807	−33,861	22,248	−17,533	4,715	−1,283	−2,070	2,870	−29,629	−4,085	−33,714
III	56,268	−92,989	−36,721	21,845	−15,729	6,116	−1,076	−2,407	2,800	−31,288	−4,249	−35,537
IV	56,642	−95,174	−38,532	21,667	−16,350	5,317	−605	−2,410	3,112	−33,118	−4,003	−37,121
1987:												
I	56,791	−96,662	−39,871	24,791	−19,715	5,076	−78	−2,597	2,813	−34,657	−2,967	−37,624
II	59,864	−99,416	−39,552	22,429	−20,737	1,692	−179	−2,516	2,828	−37,727	−3,125	−40,852
III	64,902	−104,567	−39,665	23,289	−22,222	1,067	−851	−2,521	2,983	−38,987	−2,980	−41,967
IV	68,013	−109,205	−41,192	33,248	−20,709	12,539	−1,261	−2,648	3,412	−29,150	−4,373	−33,523
1988:												
I	75,300	−110,484	−35,184	26,554	−25,395	1,159	−1,033	−2,121	3,362	−33,817	−3,121	−36,938
II	79,606	−109,757	−30,151	23,426	−25,366	−1,940	−914	−1,676	3,693	−30,988	−2,751	−33,739
III [p]	82,306	−110,839	−28,533	26,830	−27,167	−337	−934	−1,463	3,491	−27,776	−3,118	−30,894

[1] Excludes military.
[2] Adjusted from Census data for differences in valuation, coverage, and timing.
[3] Fees and royalties from U.S. direct investments abroad or from foreign direct investments in the United States are excluded from investment income and included in other services, net.
[4] In concept, balance on goods and services is equal to net exports and imports in the national income and product accounts (and the sum of balance on current account and allocations of special drawing rights is equal to net foreign investment in the accounts), although the series differ because of different handling of certain items (gold, capital gains and losses, etc.), revisions, etc.

See next page for continuation of table.

TABLE B–102.—*U.S. international transactions, 1946–88*—Continued

[Millions of dollars; quarterly data seasonally adjusted, except as noted]

Year or quarter	U.S. assets abroad, net (increase/capital outflow (−))				Foreign assets in the U.S., net (increase/capital inflow (+))			Allocations of special drawing rights (SDRs)	Statistical discrepancy	
	Total	U.S. official reserve assets [6]	Other U.S. Government assets	U.S. private assets	Total	Foreign official assets	Other foreign assets		Total (sum of the items with sign reversed)	Of which: Seasonal adjustment discrepancy
1946		−623								
1947		−3,315								
1948		−1,736								
1949		−266								
1950		1,758								
1951		−33								
1952		−415								
1953		1,256								
1954		480								
1955		182								
1956		−869								
1957		−1,165								
1958		2,292								
1959		1,035								
1960	−4,099	2,145	−1,100	−5,144	2,294	1,473	821		−1,019	
1961	−5,538	607	−910	−5,235	2,705	765	1,939		−989	
1962	−4,174	1,535	−1,085	−4,623	1,911	1,270	641		−1,124	
1963	−7,270	378	−1,662	−5,986	3,217	1,986	1,231		−360	
1964	−9,560	171	−1,680	−8,050	3,643	1,660	1,983		−907	
1965	−5,716	1,225	−1,605	−5,336	742	134	607		−457	
1966	−7,321	570	−1,543	−6,347	3,661	−672	4,333		629	
1967	−9,757	53	−2,423	−7,386	7,379	3,451	3,928		−205	
1968	−10,977	−870	−2,274	−7,833	9,928	−774	10,703		438	
1969	−11,585	−1,179	−2,200	−8,206	12,702	−1,301	14,002		−1,516	
1970	−9,337	2,481	−1,589	−10,229	6,359	6,908	−550	867	−219	
1971	−12,475	2,349	−1,884	−12,940	22,970	26,879	−3,909	717	−9,779	
1972	−14,497	−4	−1,568	−12,925	21,461	10,475	10,986	710	−1,879	
1973	−22,874	158	−2,644	−20,388	18,388	6,026	12,362		−2,654	
1974	−34,745	−1,467	[6] 366	−33,643	34,241	10,546	23,696		−1,458	
1975	−39,703	−849	−3,474	−35,380	15,670	7,027	8,643		5,917	
1976	−51,269	−2,558	−4,214	−44,498	36,518	17,693	18,826		10,544	
1977	−34,785	−375	−3,693	−30,717	51,319	36,816	14,503		−2,023	
1978	−61,130	732	−4,660	−57,202	64,036	33,678	30,358		12,521	
1979	−64,331	−1,133	−3,746	−59,453	38,752	−13,665	52,416	1,139	25,431	
1980	−86,118	−8,155	−5,162	−72,802	58,112	15,497	42,615	1,152	24,982	
1981	−110,951	−5,175	−5,097	−100,679	83,032	4,960	78,072	1,093	19,942	
1982	−121,153	−4,965	−6,131	−110,058	93,746	3,593	90,154		36,085	
1983	−49,777	−1,196	−5,006	−43,576	84,869	5,845	79,023		11,154	
1984	−22,304	−3,131	−5,489	−13,685	102,621	3,140	99,481		26,760	
1985	−32,636	−3,858	−2,829	−25,950	129,900	−1,196	131,096		17,839	
1986	−97,991	312	−2,000	−96,303	221,253	35,507	185,746		15,565	
1987	−75,987	9,149	1,162	−86,297	211,490	44,968	166,522		18,461	
1986: I	−15,626	−115	−206	−15,305	39,050	2,719	36,331		9,033	3,006
II	−24,515	16	−211	−24,320	50,128	15,838	34,291		8,100	−2,786
III	−26,213	280	−1,592	−24,901	69,884	15,779	54,104		−8,133	−3,876
IV	−31,635	132	10	−31,777	62,192	1,171	61,020		6,565	3,655
1987: I	11,072	1,956	67	9,049	33,100	13,977	19,122		−6,547	4,141
II	−22,878	3,419	−170	−26,127	50,660	10,332	40,327		13,071	−2,615
III	−25,292	32	252	−25,567	71,658	611	71,047		−4,399	−4,658
IV	−38,891	3,741	1,012	−43,645	56,072	20,047	36,025		16,342	3,138
1988: I	6,591	1,503	−814	5,903	26,066	24,670	1,395		4,282	3,747
II	−18,972	39	−801	−18,210	65,495	5,946	59,549		−12,784	−3,585
III [p]	−39,630	−7,380	1,931	−34,181	48,027	−2,902	50,928		22,498	−5,205

[6] Includes extraordinary U.S. Government transactions with India.

[6] Consists of gold, special drawing rights, foreign currencies, and the U.S. reserve position in the International Monetary Fund (IMF).

Note.—Quarterly data for U.S. official reserve assets and foreign assets in the United States are not seasonally adjusted.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–103.—*U.S. merchandise exports and imports by principal end-use category, 1965–88*

[Billions of dollars; quarterly data seasonally adjusted]

Year or quarter	Exports							Imports						
	Total	Agricultural products	Nonagricultural products					Total	Petroleum and products	Nonpetroleum products				
			Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other			Total	Industrial supplies and materials	Capital goods except automotive	Automotive	Other
1965	26.5	6.3	20.2	7.6	8.1	1.9	2.6	21.5	2.0	19.5	9.1	1.5	0.9	8.0
1966	29.3	6.9	22.4	8.2	8.9	2.4	2.9	25.5	2.1	23.4	10.2	2.2	1.8	9.2
1967	30.7	6.5	24.2	8.5	9.9	2.8	3.0	26.9	2.1	24.8	10.0	2.5	2.4	9.9
1968	33.6	6.3	27.3	9.6	11.1	3.5	3.2	33.0	2.4	30.6	12.0	2.8	4.0	11.8
1969	36.4	6.1	30.3	10.4	12.4	3.9	3.7	35.8	2.6	33.2	11.7	3.4	5.1	13.0
1970	42.5	7.4	35.1	12.3	14.7	3.9	4.3	39.9	2.9	36.9	12.3	4.0	5.7	15.0
1971	43.3	7.8	35.5	10.9	15.4	4.7	4.5	45.6	3.6	41.9	13.6	4.3	7.6	16.5
1972	49.4	9.5	39.9	11.8	16.9	5.5	5.6	55.8	4.7	51.1	16.0	5.9	9.0	20.2
1973	71.4	18.0	53.4	16.9	22.0	7.0	7.6	70.5	8.4	62.1	19.2	8.3	10.7	23.9
1974	98.3	22.4	75.9	26.2	30.9	8.8	10.0	103.8	26.6	77.2	27.4	9.8	12.4	27.5
1975	107.1	22.2	84.8	26.7	36.6	10.8	10.7	98.2	27.0	71.2	23.6	10.2	12.1	25.3
1976	114.7	23.4	91.4	28.3	39.1	12.2	11.7	124.2	34.6	89.7	29.1	12.3	16.8	31.4
1977	120.8	24.3	96.5	29.7	39.8	13.5	13.5	151.9	45.0	106.9	35.0	14.0	19.4	38.6
1978 [1]	142.1	29.9	112.2	33.5	46.7	15.5	16.4	176.0	42.6	133.4	40.6	19.4	25.0	48.4
1979	184.5	35.6	148.9	51.6	59.2	18.1	20.1	212.0	61.0	151.1	47.5	24.5	26.5	52.6
1980	224.3	42.2	182.1	64.6	75.1	17.1	25.3	249.8	79.4	170.4	52.9	31.4	28.1	58.0
1981	237.1	44.0	193.1	63.2	82.4	19.3	28.1	265.1	78.6	186.5	56.4	36.9	30.9	62.3
1982	211.2	37.2	174.0	57.4	74.3	17.0	25.3	247.6	62.0	185.6	48.9	38.4	34.0	64.3
1983	201.8	37.1	164.7	52.3	69.2	18.3	24.9	268.9	55.3	213.6	53.9	43.2	43.2	73.3
1984	219.9	38.4	181.5	56.0	74.3	22.1	29.1	332.4	58.0	274.4	66.0	60.5	56.6	91.4
1985	215.9	29.6	186.4	54.0	76.5	24.7	31.1	338.1	51.3	286.8	62.4	61.4	65.1	97.9
1986	224.0	27.4	196.6	58.7	79.3	24.9	33.7	368.5	34.4	334.1	69.9	72.1	78.1	114.0
1987	249.6	29.5	220.1	62.8	88.1	26.3	42.9	409.9	42.9	367.0	71.2	84.8	85.2	125.8
1986: I	54.1	7.2	46.9	13.6	19.1	6.3	8.0	89.5	10.4	79.1	17.4	16.7	18.0	26.9
II	56.9	6.5	50.4	16.0	19.7	6.4	8.3	90.8	7.8	83.0	18.1	17.9	19.1	27.9
III	56.3	6.6	49.6	14.9	20.4	5.9	8.4	93.0	8.0	85.0	16.7	18.6	20.6	29.0
IV	56.6	7.0	49.6	14.2	20.2	6.3	9.0	95.2	8.1	87.1	17.6	18.9	20.3	30.2
1987: I	56.8	6.5	50.3	14.4	19.8	6.1	10.0	96.7	8.8	87.9	17.2	19.2	21.0	30.6
II	59.9	7.1	52.7	15.3	20.8	6.2	10.5	99.4	10.1	89.3	16.4	20.6	21.0	31.3
III	64.9	8.3	56.6	16.2	23.3	6.4	10.8	104.6	12.8	91.8	17.7	21.7	21.0	31.4
IV	68.0	7.6	60.4	16.9	24.1	7.6	11.7	109.2	11.3	97.9	19.9	23.3	22.2	32.5
1988: I	75.3	9.0	66.3	19.7	26.4	7.9	12.3	110.5	10.0	100.5	21.3	24.1	21.8	33.2
II	79.6	9.7	69.9	20.7	27.5	8.3	13.5	109.8	10.3	99.5	20.9	25.2	21.1	32.3
III *p*	82.3	10.4	71.9	20.8	28.7	8.2	14.3	110.8	9.9	101.0	20.2	25.4	21.6	33.7

[1] End-use categories beginning 1978 are not strictly comparable with data for earlier periods. See *Survey of Current Business*, June 1988.

Note.—Data are on an international transactions basis and exclude military.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–104.—*U.S. merchandise exports and imports by area, 1979–88*

[Millions of dollars]

Item	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 first 3 quarters at annual rate[1]
Exports	184,473	224,269	237,085	211,198	201,820	219,900	215,935	223,969	249,570	316,283
Industrial countries	115,930	137,152	141,900	127,254	128,353	140,994	140,517	150,690	164,857	204,158
Canada	38,690	41,626	46,016	39,203	44,512	53,037	55,390	56,601	61,092	72,347
Japan	17,629	20,806	21,796	20,694	21,789	23,241	22,145	26,344	27,604	37,428
Western Europe	54,177	67,603	65,108	59,701	55,448	56,867	56,015	60,630	68,758	85,559
Australia, New Zealand, and South Africa	5,434	7,117	8,980	7,656	6,604	7,849	6,967	7,115	7,403	8,824
Other countries, except Eastern Europe	62,630	82,941	90,657	80,130	70,426	74,583	71,968	71,235	82,475	108,386
OPEC[2]	14,556	17,368	21,097	20,651	15,256	13,771	11,409	10,470	10,709	13,685
Other[3]	48,074	65,573	69,560	59,479	55,170	60,812	60,559	60,765	71,766	94,701
Eastern Europe	5,913	4,143	4,440	3,749	2,976	4,290	3,258	2,044	2,238	3,739
International organizations and unallocated		33	88	65	65	33	192			
Imports	212,009	249,750	265,063	247,642	268,900	332,422	338,083	368,516	409,850	441,440
Industrial countries	112,797	127,884	144,322	144,139	159,893	205,526	219,102	245,374	259,764	278,124
Canada	39,227	42,901	48,253	48,523	55,982	67,630	70,394	69,621	73,647	84,432
Japan	26,260	31,216	37,597	37,683	42,844	60,210	65,653	80,766	84,548	86,629
Western Europe	41,817	47,235	52,864	52,900	55,623	72,054	77,454	89,039	96,215	100,698
Australia, New Zealand, and South Africa	5,493	6,532	5,608	5,033	5,443	5,632	5,601	5,948	5,354	6,365
Other countries, except Eastern Europe	96,131	119,135	119,188	102,414	107,593	124,679	117,134	121,163	148,167	161,152
OPEC[2]	45,039	55,602	49,934	31,517	25,282	26,852	22,680	18,894	24,367	23,441
Other[3]	51,092	63,533	69,254	70,897	82,311	97,827	94,454	102,269	123,800	137,711
Eastern Europe	1,896	1,444	1,553	1,066	1,413	2,217	1,847	1,979	1,919	2,164
International organizations and unallocated	1,185	1,287		23	1					
Balance (excess of exports +)	−27,536	−25,481	−27,978	−36,444	−67,080	−112,522	−122,148	−144,547	−160,280	−125,157
Industrial countries	3,133	9,268	−2,422	−16,885	−31,540	−64,532	−78,585	−94,684	−94,907	−73,966
Canada	−537	−1,275	−2,237	−9,320	−11,470	−14,593	−15,004	−13,020	−12,555	−12,085
Japan	−8,631	−10,410	−15,801	−16,989	−21,055	−36,969	−43,508	−54,422	−56,944	−49,201
Western Europe	12,360	20,368	12,244	6,801	−175	−15,187	−21,439	−28,409	−27,457	−15,139
Australia, New Zealand, and South Africa	−59	585	3,372	2,623	1,161	2,217	1,366	1,167	2,049	2,459
Other countries, except Eastern Europe	−33,501	−36,194	−28,531	−22,284	−37,167	−50,096	−45,166	−49,928	−65,692	−52,766
OPEC[2]	−30,483	−38,234	−28,837	−10,866	−10,026	−13,081	−11,271	−8,424	−13,658	−9,756
Other[3]	−3,018	2,040	306	−11,418	−27,142	−37,015	−33,895	−41,504	−52,034	−43,010
Eastern Europe	4,017	2,699	2,887	2,683	1,563	2,073	1,411	65	319	1,575
International organizations and unallocated	−1,185	−1,254	88	42	64	33	192			

[1] Preliminary; seasonally adjusted.
[2] Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.
[3] Latin American Republics, other Western Hemisphere, and other countries in Asia and Africa, less members of OPEC.

Note.—Data are on an international transactions basis and exclude military.

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–105.—*U.S. merchandise exports, imports, and trade balance, 1970–88*

[Billions of dollars; monthly data seasonally adjusted]

Year or month	Merchandise exports (f.a.s. value) [1]							General merchandise imports (customs value) [2]							General merchandise imports (c.i.f. value) [4]	Trade balance	
		Principal end-use commodity category							Principal end-use commodity category								
	Total [3]	Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (nonfood) except automotive	Other [5]	Total	Foods, feeds, and beverages	Industrial supplies and materials	Capital goods except automotive	Automotive vehicles, parts, and engines	Consumer goods (nonfood) except automotive	Other		Exports (f.a.s.) less imports (customs value)	Exports (f.a.s.) less imports (c.i.f.)
	F.a.s. value [6]							Customs value									
1970	43.2							40.0							42.4	3.2	0.8
1971	44.1							45.6							48.3	−1.5	−4.3
1972	49.9							55.6							58.9	−5.7	−9.0
1973	71.9							69.5							73.2	2.4	−1.3
1974	99.3							101.4							108.4	−2.0	−9.1
								F.a.s. value [6]									
1974	99.4							102.6							110.9	−3.1	−11.4
1975	108.9							98.5							105.9	10.4	3.0
1976	116.8							123.5							132.5	−6.7	−15.7
1977	123.2							150.4							160.4	−27.2	−37.2
1978	145.8							174.8							186.0	−28.9	−40.2
1979	186.4							209.5							222.2	−23.1	−35.9
1980	225.6							244.9							257.0	−19.3	−31.4
								Customs value									
1981	238.7							261.0							273.4	−22.3	−34.6
1982	216.4	31.3	61.7	72.7	15.7	14.3	20.7	244.0	17.1	112.0	35.4	33.3	39.7	6.5	254.9	−27.5	−38.4
1983	205.6	30.9	56.7	67.2	16.8	13.4	20.5	258 0	18.2	107.0	40.9	40.8	44.9	6.3	269.9	−52.4	−64.2
1984	224.0	31.5	61.7	72.0	20.6	13.3	24.0	325.7	21.0	123.7	59.8	53.5	60.0	7.8	346.4	−101.7	−122.4
1985	[p] 218.8	24.0	58.5	73.9	22.9	12.6	27.3	345.3	21.9	113.9	65.1	66.8	68.3	9.4	352.5	−126.5	−133.6
1986	[p] 227.2	22.3	57.3	75.8	21.7	14.2	35.9	365.4	24.4	101.3	71.8	78.2	79.4	10.4	382.3	−138.3	−155.1
1987	254.1	24.3	66.7	86.2	24.6	17.7	34.6	406.2	24.8	111.0	84.5	85.2	88.7	12.1	424.4	−152.1	−170.3
1987:																	
Jan	18.4	1.7	5.1	6.2	1.9	1.3	2.3	31.7	2.1	8.4	6.2	6.9	7.1	1.0	33.1	−13.3	−14.7
Feb	19.3	1.7	4.9	6.6	1.9	1.3	2.8	31.8	1.9	8.4	6.5	7.3	7.0	.8	32.9	−12.5	−13.5
Mar	20.2	1.8	5.3	6.8	1.9	1.4	2.9	32.3	2.1	8.5	6.7	6.6	7.2	1.0	34.0	−12.1	−13.8
Apr	20.4	1.9	5.5	6.9	1.9	1.4	2.9	32.0	2.1	8.1	6.6	6.8	7.4	.9	33.6	−11.6	−13.2
May	20.3	2.0	5.4	6.8	1.9	1.5	2.6	32.5	2.0	8.8	6.6	6.9	7.2	1.1	34.3	−12.3	−14.1
June	21.1	2.1	5.5	6.5	2.2	1.5	3.3	34.4	2.2	9.1	7.3	7.2	7.7	.9	36.2	−13.3	−15.1
July	22.4	2.4	5.6	7.6	1.9	1.6	3.4	34.6	2.1	10.2	7.0	7.0	7.4	.9	36.3	−12.2	−13.9
Aug	20.9	2.2	5.6	7.0	2.0	1.5	2.6	34.5	2.0	10.1	7.1	7.0	7.4	.9	36.0	−13.6	−15.1
Sept	21.8	2.2	5.6	8.0	2.1	1.6	2.2	34.6	2.0	9.5	7.4	7.1	7.4	1.1	35.7	−12.8	−13.9
Oct	22.1	2.3	5.5	7.5	2.1	1.5	3.2	36.0	2.3	10.3	7.4	7.4	7.3	1.2	37.6	−13.9	−15.6
Nov	23.1	1.8	6.1	8.1	2.5	1.6	3.0	35.3	2.1	9.9	7.6	7.3	7.5	1.0	36.7	−12.2	−13.6
Dec	24.2	2.0	6.5	8.2	2.3	1.6	3.5	36.6	2.0	9.8	8.0	7.6	8.1	1.1	37.9	−12.4	−13.8
1988:																	
Jan	24.5	2.2	6.6	8.7	2.1	1.6	3.1	34.3	2.1	9.5	7.5	6.8	7.5	.9	35.8	−9.8	−11.3
Feb	24.5	2.5	6.6	8.6	2.4	1.8	2.6	37.7	2.2	10.0	8.6	7.6	8.4	.9	38.9	−13.2	−14.4
Mar	26.9	2.6	7.7	8.7	2.7	1.8	3.4	36.6	2.2	9.6	8.4	7.5	7.8	1.1	38.6	−9.8	−11.7
Apr	26.0	2.6	7.3	8.8	2.3	1.8	3.2	34.8	2.0	9.5	7.9	7.2	7.3	1.0	36.3	−8.8	−10.3
May	27.5	2.9	7.1	9.3	2.4	1.9	3.8	35.7	2.0	10.5	8.1	6.5	7.6	1.0	37.2	−8.3	−9.8
June	26.3	2.7	7.0	8.5	2.2	1.9	4.0	37.9	1.9	10.2	9.0	7.4	8.3	1.1	39.5	−11.7	−13.2
July	26.5	2.9	7.1	9.1	2.0	2.0	3.4	34.5	1.9	9.7	7.8	6.6	7.5	1.1	36.0	−8.0	−9.5
Aug	27.5	3.1	6.9	9.4	2.8	2.0	3.4	38.1	2.2	10.2	8.9	7.3	8.5	1.1	39.8	−10.6	−12.3
Sept	28.0	3.0	7.3	9.4	2.6	2.1	3.6	37.2	2.0	9.4	8.7	7.9	8.1	1.1	38.7	−9.2	−10.7
Oct	27.7	2.8	6.6	9.4	2.5	1.9	4.5	36.6	2.1	9.8	8.1	7.7	7.8	1.1	38.0	−8.9	−10.3

[1] Department of Defense shipments of grant-aid military supplies and equipment under the Military Assistance Program are excluded from total exports through 1985 and included beginning 1986.
[2] Includes undocumented exports to Canada.
[3] Total arrivals of imported goods other than intransit shipments.
[4] C.i.f. (cost, insurance, and freight) import value at first port of entry into United States. Data for 1967–73 are estimates.
[5] F.a.s. (free alongside ship) value basis at U.S. port of exportation for exports and at foreign port of exportation for imports.
[6] Total exports are on a revised statistical month basis; end-use categories are on a statistical month basis.

Note.—Data are as reported by the Bureau of the Census adjusted to include silver ore and bullion reported separately prior to 1969. Trade in gold is included beginning 1974. Export statistics cover all merchandise shipped from the U.S. customs area, except supplies for the U.S. Armed Forces. Exports include shipments under Agency for International Development and Food for Peace programs as well as other private relief shipments.
Data beginning 1974 include trade of the U.S. Virgin Islands.
Source: Department of Commerce (Bureau of the Census and International Trade Administration, Office of Trade and Investment Analysis, Trade Statistics Division).

TABLE B–106.—*International investment position of the United States at year-end, 1980–87*

[Billions of dollars]

Type of investment	1980	1981	1982	1983	1984	1985	1986	1987
Net international investment position of the United States	106.3	141.1	136.9	89.4	3.5	−110.7	−269.2	−368.2
U.S. assets abroad	607.1	719.8	824.9	873.9	896.1	950.3	1,071.4	1,167.8
U.S. official reserve assets	26.8	30.1	34.0	33.7	34.9	43.2	46.5	45.8
Gold	11.2	11.2	11.1	11.1	11.1	11.1	11.1	11.1
Special drawing rights	2.6	4.1	5.3	5.0	5.6	7.3	8.4	10.3
Reserve position in the International Monetary Fund	2.9	5.1	7.3	11.3	11.5	11.9	11.7	11.3
Foreign currencies	10.1	9.8	10.2	6.3	6.7	12.9	17.3	13.1
U.S. Government assets, other than official reserve assets	63.8	68.7	74.6	79.5	84.8	87.6	89.5	88.4
U.S. loans and other long-term assets	62.0	67.2	72.9	77.8	82.9	85.8	88.7	87.6
Repayable in dollars	59.8	65.0	70.9	76.0	81.1	84.1	87.1	86.0
Other	2.2	2.2	1.9	1.8	1.8	1.7	1.6	1.6
U.S. foreign currency holdings and U.S. short-term assets	1.7	1.5	1.7	1.7	2.0	1.8	.8	.8
U.S. private assets	516.6	621.1	716.4	760.7	776.3	819.5	933.4	1,033.6
Direct investment abroad	215.4	228.3	207.8	207.2	211.5	230.3	259.6	308.9
Foreign securities	62.7	63.4	75.5	83.8	89.1	112.8	133.2	146.7
Bonds	43.5	45.8	56.7	57.7	61.8	73.0	81.8	91.0
Corporate stocks	19.2	17.6	18.8	26.1	27.3	39.8	51.4	55.7
U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	34.7	35.9	28.6	35.1	30.1	29.1	33.3	30.1
U.S. claims reported by U.S. banks, not included elsewhere	203.9	293.5	404.6	434.5	445.6	447.4	507.3	547.9
Foreign assets in the United States	500.8	578.7	688.1	784.5	892.6	1,061.0	1,340.7	1,536.0
Foreign official assets in the United States	176.1	180.4	189.1	194.5	199.3	202.6	241.7	283.1
U.S. Government securities	118.2	125.1	132.6	137.0	143.0	143.4	177.3	219.1
U.S. Treasury securities	111.3	117.0	124.9	129.7	135.5	135.7	170.6	211.2
Other	6.9	8.1	7.7	7.3	7.5	7.7	6.7	7.9
Other U.S. Government liabilities	13.4	13.0	13.6	14.2	15.0	15.7	17.8	15.0
U.S. liabilities reported by U.S. banks, not included elsewhere	30.4	26.7	25.0	25.5	26.1	26.7	27.9	31.8
Other foreign official assets	14.1	15.5	17.9	17.7	15.2	16.7	18.8	17.3
Other foreign assets in the United States	324.8	398.3	498.9	590.0	693.3	858.4	1,098.9	1,252.9
Direct investment in the United States	83.0	108.7	124.7	137.1	164.6	184.6	220.4	261.9
U.S. Treasury securities	16.1	18.5	25.8	33.8	58.2	83.6	91.5	78.4
U.S. securities other than U.S. Treasury securities	74.1	75.1	93.0	113.8	127.3	206.2	308.8	344.4
Corporate and other bonds	9.5	10.7	16.7	17.5	32.7	82.5	142.1	171.0
Corporate stocks	64.6	64.4	76.3	94.5	94.6	123.7	166.7	173.4
U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	30.4	30.6	27.5	26.9	31.0	29.5	26.6	28.8
U.S. liabilities reported by U.S. banks, not included elsewhere	121.1	165.4	228.0	278.3	312.2	354.5	451.6	539.4

Source: Department of Commerce, Bureau of Economic Analysis.

TABLE B–107.—*International reserves, selected years, 1952–88*

[Millions of SDRs; end of period]

Area and country	1952	1962	1972	1982	1985	1986	1987	1988	
								Oct	Nov
All countries	49,388	62,851	147,323	361,515	438,496	451,921	539,503	568,648	.....
Industrial countries	38,582	52,535	110,282	211,919	254,907	276,369	347,435	367,926	.....
United States	24,714	17,220	12,112	29,918	38,412	39,790	33,657	38,252	36,894
Canada	1,944	2,561	5,572	3,428	2,982	3,348	5,778	12,050	11,773
Australia	920	1,168	5,656	6,053	5,528	6,202	6,441	10,223	10,370
Japan	1,101	2,021	16,916	22,001	25,173	35,394	57,925	68,897	71,255
New Zealand	183	251	767	577	1,454	3,084	2,298	1,903	1,822
Austria	116	1,081	2,505	5,544	5,080	5,778	6,049	6,657	6,734
Belgium	1,133	1,753	3,564	4,757	5,611	5,724	7,958	7,885	8,076
Denmark	150	256	787	2,111	4,999	4,116	7,153	8,514	7,848
Finland	132	237	664	1,420	3,481	1,528	4,592	4,605	4,532
France	686	4,049	9,224	17,850	27,071	28,579	26,161	22,366	.....
Germany	960	6,958	21,908	43,909	43,735	45,626	58,846	47,931	48,444
Iceland	8	32	78	133	189	255	221	205	176
Ireland	318	359	1,038	2,390	2,689	2,658	3,393	3,851	3,609
Italy	722	4,068	5,605	15,108	16,531	18,674	23,631	26,147	27,357
Netherlands	953	1,943	4,407	10,723	11,354	10,687	12,818	13,332	13,838
Norway	164	304	1,220	6,272	12,711	10,281	10,105	10,576	9,552
Spain	134	1,045	4,618	7,450	10,686	12,581	22,035	27,029	.....
Sweden	504	802	1,453	3,397	5,487	5,568	5,974	6,329	6,377
Switzerland	1,667	2,919	6,961	16,930	19,317	20,726	22,283	18,940	19,086
United Kingdom	1,956	3,308	5,201	11,904	12,373	15,726	30,070	32,186	32,943
Developing countries: Total[1]	10,345	10,316	37,040	149,596	183,590	175,553	192,068	200,723	.....
By area:									
Africa	1,786	2,110	3,962	7,696	8,689	7,407	7,538	7,554	.....
Asia[1]	3,793	2,772	8,129	44,577	67,773	81,388	99,773	108,083	.....
Europe	966	1,348	6,425	7,666	10,588	11,190	11,742	16,236	.....
Middle East	1,183	1,805	9,436	64,094	58,628	47,914	45,818	42,802	.....
Western Hemisphere	2,616	2,282	9,089	25,563	37,912	27,653	27,197	26,048	.....
Memo:									
Oil-exporting countries	1,699	2,030	9,956	67,163	69,325	51,898	49,146	43,489	.....
Non-oil developing countries[1]	8,646	8,286	27,085	82,433	114,265	123,655	142,921	157,234	.....

[1] Includes data for Taiwan Province of China.

Note.—International reserves is comprised of monetary authorities' holdings of gold (at SDR 35 per ounce), special drawing rights (SDRs), reserve positions in the International Monetary Fund, and foreign exchange. Data exclude U.S.S.R., other Eastern European countries, and Cuba (after 1960).

U.S. dollars per SDR (end of period) are: 1952 and 1962—1.00000; 1972—1.08571; 1982—1.10311; 1985—1.09842; 1986—1.22319; 1987—1.41866; and November 1988—1.36637.

Source: International Monetary Fund, *"International Financial Statistics."*

TABLE B–108.—*Foreign exchange rates, 1967–88*

[Currency units per U.S. dollar, except as noted]

Period	Belgium (franc)	Canada (dollar)	France (franc)	Germany (mark)	Italy (lira)	Japan (yen)
March 1973	39.405	0.9967	4.5063	2.8131	568.87	261.83
1967	49.689	1.0789	4.9206	3.9865	624.09	362.13
1968	49.936	1.0776	4.9529	3.9920	623.38	360.55
1969	50.142	1.0769	5.1999	3.9251	627.32	358.36
1970	49.656	1.0444	5.5288	3.6465	627.12	358.16
1971	48.597	1.0099	5.5098	3.4829	618.32	347.78
1972	44.019	.9907	5.0443	3.1885	583.68	303.12
1973	38.954	1.0002	4.4534	2.6714	582.39	271.30
1974	38.959	.9780	4.8106	2.5867	650.80	291.84
1975	36.799	1.0175	4.2876	2.4613	653.09	296.78
1976	38.608	.9863	4.7824	2.5184	833.55	296.45
1977	35.848	1.0633	4.9160	2.3236	882.76	268.62
1978	31.493	1.1405	4.5090	2.0096	849.12	210.38
1979	29.342	1.1713	4.2567	1.8342	831.10	219.02
1980	29.237	1.1693	4.2250	1.8175	856.20	226.63
1981	37.194	1.1990	5.4396	2.2631	1138.58	220.63
1982	45.780	1.2344	6.5793	2.4280	1354.00	249.06
1983	51.121	1.2325	7.6203	2.5539	1519.32	237.55
1984	57.749	1.2963	8.7355	2.8454	1756.11	237.45
1985	59.336	1.3658	8.9799	2.9419	1908.88	238.47
1986	44.662	1.3896	6.9256	2.1704	1491.16	168.35
1987	37.357	1.3259	6.0121	1.7981	1297.03	144.60
1988 p	36.790	1.2306	5.9595	1.7570	1302.40	128.17
1987: I	38.146	1.3374	6.1288	1.8398	1307.05	153.16
II	37.463	1.3327	6.0284	1.8069	1300.29	142.71
III	38.176	1.3225	6.1345	1.8393	1331.21	147.07
IV	35.614	1.3111	5.7524	1.7050	1247.99	135.54
1988: I	35.053	1.2665	5.6699	1.6761	1236.27	127.95
II	35.726	1.2299	5.7811	1.7082	1269.03	125.74
III	39.141	1.21%	6.3262	1.8681	1386.78	133.71
IV p	37.190	1.2068	6.0572	1.7740	1316.40	125.16

Period	Netherlands (guilder)	Sweden (krona)	Switzerland (franc)	United Kingdom (pound) [1]	Multilateral trade-weighted value of the U.S. dollar (March 1973=100)	
					Nominal	Real [2]
March 1973	2.8708	4.4276	3.2171	247.24	100.0	100.0
1967	3.6024	5.1621	4.3283	275.04	120.0	
1968	3.6198	5.1683	4.3163	239.35	122.1	
1969	3.6240	5.1701	4.3131	239.01	122.4	
1970	3.6166	5.1862	4.3106	239.59	121.1	
1971	3.4952	5.1050	4.1170	244.42	117.8	
1972	3.2097	4.7570	3.8186	250.34	109.1	
1973	2.7945	4.3618	3.1687	245.25	99.1	98.8
1974	2.6878	4.4386	2.9804	234.03	101.4	99.2
1975	2.5293	4.1530	2.5839	222.16	98.5	93.9
1976	2.6448	4.3579	2.5001	180.48	105.6	97.3
1977	2.4547	4.4801	2.4064	174.49	103.3	93.1
1978	2.1642	4.5206	1.7906	191.84	92.4	84.2
1979	2.0072	4.2892	1.6643	212.24	88.1	83.2
1980	1.9875	4.2309	1.6772	227.74	87.4	84.8
1981	2.4998	5.0659	1.9674	202.43	102.9	100.8
1982	2.6719	6.2838	2.0327	174.80	116.6	111.7
1983	2.8543	7.6717	2.1006	151.59	125.3	117.3
1984	3.2083	8.2706	2.3500	133.68	138.3	128.5
1985	3.3184	8.6031	2.4551	129.74	143.2	132.0
1986	2.4484	7.1272	1.7979	146.77	112.2	103.3
1987	2.0263	6.3468	1.4918	163.98	96.9	90.6
1988 p	1.9778	6.1370	1.4643	178.13	92.8	88.0
1987: I	2.0768	6.5106	1.5468	154.38	99.9	92.6
II	2.0368	6.3109	1.4923	164.15	97.0	90.4
III	2.0713	6.4404	1.5256	161.74	98.7	92.6
IV	1.9189	6.1246	1.4018	175.59	92.3	86.8
1988: I	1.8828	5.9905	1.3759	179.90	90.0	84.9
II	1.9176	5.9707	1.4194	184.05	90.4	85.5
III	2.1081	6.4319	1.5658	169.51	97.6	92.9
IV p	2.0013	6.1517	1.4949	179.10	93.0	88.7

[1] Cents per unit of foreign currency.
[2] Adjusted by changes in consumer prices.

Source: Board of Governors of the Federal Reserve System.

TABLE B–109.—*Industrial production and consumer prices, major industrial countries, 1962–88*

Year or quarter	United States	Canada	Japan	European Community[1]	France	West Germany	Italy	United Kingdom
	Industrial production (1977=100)[2]							
1962	53.2	46.6	29.2	55.7	50	56.6	49.6	68.4
1963	56.3	49.6	32.5	58.1	56	58.2	54.0	70.7
1964	60.1	54.1	37.7	62.3	60	63.3	56.1	76.4
1965	66.1	58.7	39.2	64.9	61	66.9	58.7	78.6
1966	72.0	63.0	44.2	67.4	64	67.5	65.6	79.8
1967	73.5	65.5	52.8	68.5	66	65.5	70.7	80.4
1968	77.6	69.7	60.8	73.6	68	71.5	74.8	86.5
1969	81.2	74.5	70.4	80.5	75	80.6	77.6	89.5
1970	78.5	75.5	80.1	84.5	79	85.8	82.6	89.9
1971	79.6	79.6	82.3	86.4	84	87.5	82.2	89.5
1972	87.3	85.6	86.8	90.2	88	90.8	86.2	91.1
1973	94.4	94.7	99.0	96.8	95	96.7	94.5	90.2
1974	93.0	97.7	96.7	97.5	98	96.4	98.3	97.3
1975	84.8	91.9	86.5	91.0	91	90.5	89.6	92.1
1976	92.6	97.5	96.1	97.7	98	98.7	100.0	95.1
1977	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0
1978	106.5	103.3	106.3	102.3	102	102.7	101.9	103.0
1979	110.7	109.7	113.8	107.4	107	107.7	108.8	106.9
1980	108.6	108.1	119.0	106.7	106	108.0	114.4	99.8
1981	111.0	108.6	120.3	104.2	106	106.2	112.6	96.4
1982	103.1	97.9	120.7	102.9	104	103.1	108.5	98.2
1983	109.2	104.3	124.5	104.3	105	104.1	105.8	101.7
1984	121.4	116.9	136.1	106.7	105	107.6	109.2	103.1
1985	123.7	123.3	141.0	110.2	106	112.9	110.4	107.9
1986	125.1	125.1	140.8	112.5	106	114.9	113.5	109.4
1987	129.8	131.6	145.7	114.9	108	115.6	118.0	112.9
1987: I	126.9	129.1	142.0	112.5	106	113.9	117.0	110.9
II	128.2	130.9	142.2	114.6	109	115.7	119.2	111.6
III	131.0	133.2	146.8	114.7	109	115.9	115.9	113.8
IV	133.2	136.3	151.8	116.3	110	116.8	119.7	115.1
1988: I	134.5	137.8	156.5	117.1	111	117.7	123.0	115.2
II	136.0	139.4	156.2	118.1	112	118.6	122.2	116.7
III	138.4	140.5	159.6	.....	117	120.9	121.9	116.6
	Consumer prices (1982–84=100)							
1962	30.2	27.4	24.7	22.7	21.0	43.1	12.6	15.8
1963	30.6	27.9	26.6	23.6	22.0	44.3	13.6	16.1
1964	31.0	28.4	27.7	24.4	22.7	45.4	14.4	16.6
1965	31.5	29.1	29.5	25.3	23.3	46.9	15.0	17.4
1966	32.4	30.2	31.1	26.2	23.9	48.5	15.4	18.1
1967	33.4	31.3	32.2	26.9	24.6	49.3	16.0	18.5
1968	34.8	32.5	34.0	27.9	25.7	50.1	16.2	19.4
1969	36.7	34.0	35.8	29.0	27.4	51.0	16.6	20.4
1970	38.8	35.1	38.5	30.5	28.7	52.9	16.8	21.8
1971	40.5	36.1	40.9	32.4	30.3	55.6	17.6	23.8
1972	41.8	37.9	42.9	34.3	32.2	58.7	18.7	25.5
1973	44.4	40.7	47.9	37.2	34.5	62.8	20.6	27.9
1974	49.3	45.2	59.0	42.1	39.3	67.2	24.6	32.3
1975	53.8	50.1	66.0	47.6	43.9	71.2	28.8	40.2
1976	56.9	53.8	72.1	52.6	48.1	74.2	33.6	46.8
1977	60.6	58.1	78.0	57.7	52.7	76.9	40.1	54.2
1978	65.2	63.3	81.3	61.7	57.5	79.0	45.1	58.7
1979	72.6	69.1	84.3	67.3	63.6	82.3	52.1	66.6
1980	82.4	76.1	90.9	75.6	72.2	86.7	63.2	78.5
1981	90.9	85.6	95.4	84.0	81.9	92.2	75.4	87.9
1982	96.5	94.8	98.0	92.4	91.7	97.1	87.7	95.4
1983	99.6	100.4	99.8	100.5	100.3	100.3	100.8	99.8
1984	103.9	104.7	102.1	107.1	108.0	102.7	111.5	104.8
1985	107.6	108.9	104.2	113.8	114.3	104.9	121.0	111.2
1986	109.6	113.4	104.8	117.5	117.2	104.6	128.5	114.9
1987	113.6	118.4	104.9	121.2	121.1	105.0	134.4	119.7
1987: I	111.6	116.3	104.0	119.8	119.8	104.7	132.1	117.9
II	113.1	117.9	105.3	121.0	120.9	105.0	133.4	119.7
III	114.4	119.3	105.1	121.6	121.6	105.1	134.8	120.0
IV	115.4	120.1	105.3	122.5	122.1	105.1	137.1	121.3
1988: I	116.1	121.0	104.8	123.3	122.7	105.6	138.6	121.9
II	117.5	122.6	105.5	124.7	123.9	106.2	140.0	124.8
III	119.1	124.0	105.7	125.8	125.0	106.3	141.4	127.6

[1] Consists of Belgium-Luxembourg, Denmark, France, Greece, Ireland, Italy, Netherlands, United Kingdom, West Germany, Portugal, and Spain. Industrial production prior to July 1981 excludes data for Greece, which joined the EC in 1981. Data for Portugal and Spain, which became members on January 1, 1986 are excluded prior to 1982.

[2] All data exclude construction. Quarterly data are seasonally adjusted.

Sources: Department of Commerce (International Trade Administration, Office of Trade and Investment Analysis, Trade Statistics Division) and Department of Labor (Bureau of Labor Statistics).

TABLE B–110.—*Civilian unemployment rate, and hourly compensation, major industrial countries, 1960–88*

[Quarterly data seasonally adjusted]

Year or quarter	United States	Canada	Japan	France	West Germany	Italy	United Kingdom
	Civilian unemployment rate (percent)[1]						
1960	5.5	6.5	1.7	1.5	1.1	3.7	2.2
1961	6.7	6.7	1.5	1.2	.6	3.2	2.0
1962	5.5	5.5	1.3	1.4	.6	2.8	2.7
1963	5.7	5.2	1.3	1.6	.5	2.4	3.3
1964	5.2	4.4	1.2	1.2	.4	2.7	2.5
1965	4.5	3.6	1.2	1.6	.3	3.5	2.1
1966	3.8	3.4	1.4	1.6	.3	3.7	2.3
1967	3.8	3.8	1.3	2.1	1.3	3.4	3.3
1968	3.6	4.5	1.2	2.7	1.1	3.5	3.2
1969	3.5	4.4	1.1	2.3	.6	3.5	3.1
1970	4.9	5.7	1.2	2.5	.5	3.2	3.1
1971	5.9	6.2	1.3	2.8	.6	3.3	3.9
1972	5.6	6.2	1.4	2.9	.7	3.8	4.2
1973	4.9	5.5	1.3	2.8	.7	3.7	3.2
1974	5.6	5.3	1.4	2.9	1.6	3.1	3.1
1975	8.5	6.9	1.9	4.1	3.4	3.4	4.6
1976	7.7	7.1	2.0	4.5	3.4	3.9	5.9
1977	7.1	8.1	2.0	5.1	3.5	4.1	6.4
1978	6.1	8.3	2.3	5.3	3.3	4.1	6.3
1979	5.8	7.4	2.1	6.0	3.0	4.4	5.4
1980	7.1	7.5	2.0	6.4	2.9	4.4	7.0
1981	7.6	7.5	2.2	7.6	4.1	4.9	10.5
1982	9.7	11.0	2.4	8.3	5.8	5.4	11.3
1983	9.6	11.9	2.7	8.5	7.1	5.9	11.9
1984	7.5	11.3	2.8	10.0	7.4	5.9	11.7
1985	7.2	10.5	2.6	10.4	7.5	6.0	11.2
1986	7.0	9.6	2.8	10.6	7.0	7.5	11.2
1987	6.2	8.9	2.9	10.8	6.9	7.9	10.3
1987: I	6.6	9.6	3.0	10.9	6.8	7.6	11.0
II	6.3	9.1	3.1	10.9	6.9	7.8	10.6
III	6.0	8.8	2.8	10.8	7.0	8.0	10.0
IV	5.9	8.2	2.7	10.6	7.0	8.1	9.5
1988: I	5.7	7.9	2.7	10.6	6.9	7.9	9.0
II	5.5	7.7	2.5	10.6	7.0	7.9	8.6
III	5.5	7.9	2.5	10.7	6.9	7.8	8.1
	Manufacturing hourly compensation in U.S. dollars (1977=100)[2]						
1960	36.5	30.1	6.6	15.1	10.5	11.9	24.5
1961	37.6	29.6	7.7	16.6	12.2	13.2	26.1
1962	39.0	28.9	8.8	18.4	13.9	15.6	27.5
1963	40.2	29.8	9.8	20.0	14.8	18.5	28.7
1964	41.9	31.0	11.0	21.8	16.1	20.6	30.5
1965	42.7	32.8	12.4	23.6	17.6	21.9	33.4
1966	44.6	35.5	13.6	25.0	19.1	22.9	36.1
1967	46.9	37.6	15.3	26.8	20.2	25.4	36.7
1968	50.2	40.5	17.8	30.2	21.7	27.1	34.2
1969	53.7	43.8	21.3	30.7	24.1	30.8	37.3
1970	57.4	48.8	25.3	32.3	30.5	36.8	43.2
1971	60.9	54.3	30.2	36.5	35.9	43.1	50.9
1972	64.2	59.4	39.8	44.1	43.4	52.3	60.2
1973	68.8	63.7	54.5	57.5	59.1	66.4	67.3
1974	76.2	75.0	66.4	63.4	69.1	74.0	77.0
1975	85.1	82.5	76.0	87.4	79.9	95.0	97.3
1976	92.1	97.3	81.9	90.4	84.2	89.5	91.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.2	100.3	137.0	123.4	124.8	119.1	128.3
1979	118.6	107.6	139.2	148.3	147.0	143.1	169.0
1980	132.4	119.3	143.2	172.9	160.7	165.3	224.7
1981	145.2	133.9	157.6	155.4	138.5	153.8	224.4
1982	157.5	143.8	146.9	152.4	134.8	155.4	212.0
1983	162.4	152.8	158.6	145.2	134.8	164.4	196.9
1984	168.0	152.3	163.5	137.8	126.9	159.1	185.6
1985	176.4	151.3	170.1	145.3	129.9	160.9	192.4
1986	183.0	155.6	252.7	196.7	183.7	212.7	233.7
1987	186.9	171.5	298.3	233.6	230.6	259.0	279.6

[1] Civilian unemployment rates, approximating U.S. concepts. Quarterly data for France, West Germany, and United Kingdom should be viewed as less precise indicators of unemployment under U.S. concepts than the annual data. Many Italians reported as unemployed did not actively seek work in the past 30 days, and they have been excluded for comparability with U.S. concepts. Inclusion of such persons would about double the unemployment rate for Italy through 1985, and increase it to 11–12 percent for 1986–88. There are breaks in the series for Italy and West Germany. Based on the former series, the rate for West Germany for 1983 was 7.4 percent and the rate for Italy for 1986 was 6.3 percent.

[2] Hourly compensation in manufacturing, U.S. dollar basis. Data relate to all employed persons (wage and salary earners and the self-employed) in the United States and Canada, and to all employees (wage and salary earners) in the other countries. For France and United Kingdom, compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

Source: Department of Labor, Bureau of Labor Statistics.

TABLE B–111.—*Growth rates in real gross national product, 1961–88*

[Percent change]

Area and country	1961–65 annual average	1966–70 annual average	1971–75 annual average	1976–82 annual average	1983	1984	1985	1986	1987	1988 [1]
OECD countries [2]	5.3	4.6	3.0	3.3	2.7	4.7	3.2	2.8	3.1	3.0
United States	4.6	3.0	2.2	2.3	3.6	6.8	3.4	2.8	3.4	3.8
Canada	5.3	4.6	5.2	2.6	3.2	6.3	4.6	3.2	4.0	4.1
Japan	12.4	11.0	4.3	4.5	3.2	5.1	4.7	2.5	4.4	5.4
European Community [3]	4.9	4.6	2.9	3.0	1.5	2.4	2.4	2.6	2.7	2.5
France	5.9	5.4	4.0	3.1	.7	1.3	1.7	2.1	2.3	2.8
West Germany	4.7	4.2	2.1	2.3	1.9	3.3	1.9	2.3	1.8	2.9
Italy	4.8	6.6	2.4	2.9	1.0	3.2	2.8	2.9	3.1	3.1
United Kingdom	3.2	2.5	2.1	1.3	3.5	2.1	3.9	2.9	3.6	3.5
Communist countries [4]	4.4	5.0	4.2	2.7	2.7	2.3	2.3	4.1	1.1	[5]
U.S.S.R.	4.8	5.0	3.1	2.1	3.3	1.4	.8	3.9	.7	2.0
Eastern Europe	3.9	3.8	4.9	1.2	1.8	3.6	.8	3.0	.6	2.1
China	–.2	8.3	5.5	6.2	9.1	12.0	12.0	7.5	9.5	9.0

[1] Estimates.
[2] OECD (Organization for Economic Cooperation and Development) includes Australia, Austria, Belgium, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and United Kingdom, not shown separately.
[3] Includes Belgium, Denmark, Greece, Ireland, Luxembourg, Netherlands, Portugal, and Spain, not shown separately.
[4] Includes North Korea and Yugoslavia, not shown separately.
[5] Not available.

Sources: Department of Commerce, International Monetary Fund, Organization for Economic Cooperation and Development, and Council of Economic Advisers.

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